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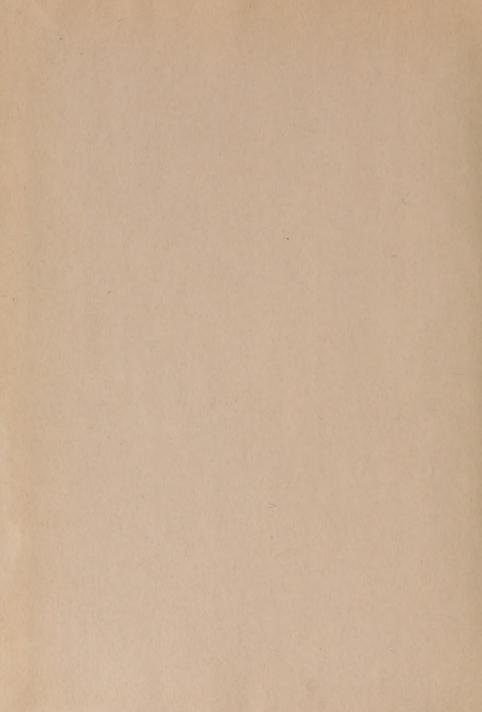


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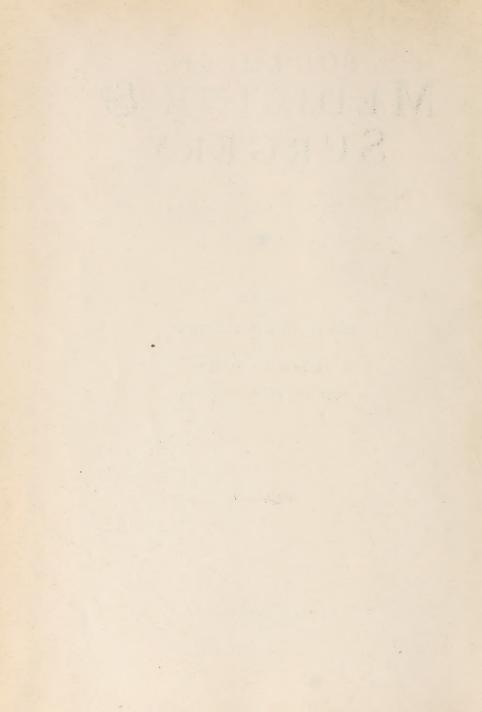
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JAMES M. NORTHINGTON, M. D., Editor

VOL. CV

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No. 1

Experiences in the Local Treatment of Burns*

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IN AN ARMY which is rapidly increasing in size, it was inevitable that the incidence of burns would increase. In the Station Hospital at Fort Bragg we were fortunate to be able to compare a recent series of burns with a series previously reported. The results seemed to be worth recording.

LITERATURE

Many articles have appeared recently attesting to the increased interest in the treatment of burns. The trend has been more and more away from the use of escharotics. Mason,1 Allen and Koch2 in Chicago and Siler3 and Reid4 in Cincinnati particularly have emphasized a treatment which depends for its efficacy on meticulous cleansing of the burn and a closed compression type of dressing. Brown and McDowell⁵ have demonstrated the value of early or immediate skin-grafting of severe burns. Harkins6 has reviewed recently all the different methods used in the local treatment of burns. Our early experience with the use of sulfathiazole-codliver-oil ointment, 10 per cent of each, in a lanolin and petrolatum base has been reported previously.7 This ointment was named Ten-and-Ten Ointment by the soldiers and is referred to by that name.

METHOD

Upon admission to the ward the patient was given morphine sulphate, gr. ¼, then undressed and put to bed. Suitable measures were instituted for combating shock, and fluid and protein loss. The burned area was gently cleaned with warm

water and ether until all the superficial dirt and debris were removed. A thorough debridement was done, cutting away all dead skin and opening all blisters. In case of a large burn this procedure takes from one to two hours, but for any amount of time spent in this fashion we are well rewarded. When this is done carefully anesthesia is rarely necessary. However, all of our patients were healthy young men. It is probable that burned patients in other decades of life would need anesthesia for the debridement. A fairly thick layer of the Ten-and-Ten was spread on sterile gauze dressings, applied directly to the burned surface, and the part wrapped with bandage. Ordinarily, to prevent trauma to the delicate new epithelium, the dressing was not disturbed for from five to seven days. However, in the presence of an unexplained rise in temperature or excessive pain the burned area was inspected sooner. If the patient has been treated within six to eight hours of his burn the area should be inspected in forty-eight hours and all the new blisters opened and debrided. At the time of the first dressing any unhealed areas were dressed in the same fashion. Most of the patients were ambulatory, and after two or three days were encouraged to be out of bed.

In old burns, when the patients were admitted up to 48 hours after the accident, hot packs soaked in 1-per cent sulfanilamide solution were used for from one to two days before applying the ointment as an additional precaution against the de-

^{*}From the Surgical Service, Station Hospital.

velopment of severe infection. Similar measures were employed in soaking off old crusts caused by eschar-producing agents.

RESULTS

The first series of 43 patients covers a ten-week period in the late months of 1941. All of the burns were first- and second-degree in depth, but varied much in other dimensions. In column 3, table 1, an estimation of the involved body surface based on the calculations of Berkow is listed. It seems clear from these figures that no one type of therapy was restricted to either the slight or severe burns. There were no fatalities.

The results obtained using various methods of treatment are tabulated in table 1. These figures show that the use of eschar-producing agents resulted in prolonged hospitalization, regardless of the extent of body surface burned. This was due to several factors. First, a soldier must be kept in the hospital until he is able to do full military duty, which means that the soldier must be able to wear clothing without discomfort on physical exertion. Second, following the previous use of escharotics the trauma to the underlying tissue was so extensive that even when the eschar was soaked off and a different type of treatment employed, the healing time was not shortened materially. Finally, the incidence of infection was greater in those patients treated with eschar-producing agents, so that infection in a small burned area resulted in a hospital stay almost as long as was necessary for those patients with a larger uninfected burn.

Gentian violet, 2-per cent; tannic acid spray and ointment, 5-per cent; and sulfadiazine spray, 3.0-to 3.5-per cent, all yielded essentially the same end results, although the healing time varied.

As our experience broadened it became increasingly plain that some other method must be devised. The eschar-producing agents could not be used about flexion creases and joints, nor on the face. Their use was accompanied often by infection and almost always by tissue scarring. It was suggested that powdered sulfathiazole be added to a cod-liver-oil ointment and a closed compression type of treatment used. The results exceeded all expectations. Not only was the hospital stay reduced by approximately one-half, but the healed result was smoother and allowed an earlier beginning of motion and physiotherapy. Most of the patients were ambulatory in two to three days, which reduced the nursing care to a minimum.

The results in second series of 32 cases were recently compared with those of the first series (table 1). It was fortunate for purposes of control to have this second series of patients come from a similar group, doing similar work, over an

identical time period. All of the patients were treated in the way described previously, using the ointment of sulfathiazole and cod-liver oil. The burns were generally more extensive, varying from 4 to 45 per cent of the body surface, averaging 13.8 per cent. Despite the greater burned area and the fact that patients with areas of third-degree burns who were treated by pinch-grafting were included in the series, the average number of hospital days required for complete healing was 18.3 days. The blood level of sulfathiazole in several patients with burns involving one-fourth to one-third of the body surface rose no higher than 2 to 3 mg. per cent. No supplementary sulfonamide was given by mouth.

COMMENT

As a result of our experience it has become clear to us that the method outlined has fulfilled certain basic requirements in the local treatment of first-and second-degree burns. In the beginning it puts the tissues in the best possible condition for repair. It allows healing to proceed undisturbed. It controls infection. There is a minimum of scar-tissue formation.

The problem of the third-degree burn has not been answered adequately. Thus far we have gained good results by waiting for the first- and second-degree burns to heal and then grafting the areas of third-degree burns. We have not attempted to do immediate skin grafting of third-degree burns. Excision preceding skin grafting, as advocated by British surgeons, is the procedure of choice for burns which have not healed due to general debility of the patient or to local scar-tissue formation following infection.

SUMMARY

- 1. Two similar series of cases of body burns are reported and various methods of treatment compared.
- An ointment composed of 10-per cent codliver oil and 10-per cent sulfathiazole in a base of equal parts of lanolin and petrolatum is described and a method of treatment with this ointment outlined.
- Treatment with this ointment was found to reduce markedly the length of hospitalization due to accelerated healing and control of infection.
- Treatment with this method resulted in a smoother healing with less scarring.

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TABLE I

	No of	Avg. No. Hospital	% of Body Surface
Treatment	Cases	Days	Involved
Sulfadiazine	12	28.3	9.5
Gentian violet	18	17.3	5.0
Tannic acid, 5%	4	21.0	6.0
Cod-liver oil			
ointment	9	9.4	9.1
Cod-liver oil			
ointment	32	18.3	13.8
	Sulfadiazine Gentian violet Tannic acid, 5% Cod-liver oil ointment Cod-liver oil	Sulfadiazine 12 Gentian violet 18 Tannic acid, 5% 4 Cod-liver oil ointment 9 Cod-liver oil	No. of Hospital Treatment Cases Days Sulfadiazine 12 28.3 Gentian violet 18 17.3 Tannic acid, 5% 4 21.0 Cod-liver oil Ointment 9 9.4 Cod-liver oil

MEDICAL EMERGENCIES

(Geo. Herrmann, in Jl. Mo. Med. Assn., Aug.)

Diabetic acidosis is characterized by Kussmaul breathing with an acetone odor, soft eyeballs, low blood pressure; and usually diacetic acid, acetone and sugar in the urine. Whenever possible blood sugar level, CO₂ combining power and nonprotein nitrogen should be made. Hypoglycemia must be properly identified before irreparable damage is done by the injection of insulin.

Uremia is suspected by the uriniferous odor of the breath, dry skin and elevation of the blood pressure, signs of arterial disease in the eye grounds. Blood chemistry studies reveal retention of nitrogenous waste products. These signs in the pregnant woman indicate eclampsia.

Meningitis presents classical symptoms and signs and can be classified as to etiology by study of the spinal fluid. Estivo-autumnal malaria may occasionally confuse this picture until proper blood studies are performed. Pneumonia may be severe enough to cause sudden unconsciousness but can be discovered by physical examination of the chest.

Coma is often the presenting symptom of poisonings and a differential diagnosis can only be made by examination of the stomach contents. In cases of lead poisoning observation of the blood for the presence of stippled cells is necessary.

Organic brain disease, epilepsy, paresis or tumors are accompanied by convulsions or coma.

Apoplexy or cerebral hemorrhage is the most common single cause of unconsciousness. Coma of this type is rarely of short duration. Initial inspection reveals an increased blood pressure accompanied often by Cheyne-Stokes respiration and hemiparesis. Subarachnoid hemorrhage produces meningitis-like symptoms with bloody spinal fluid. Cerebral embolism may be differentiated from other conditions by the finding of a pathologic condition of the heart. Both hypertensive encephalopathy and cerebral angiospasm are characterized by an elevation of blood pressure, and by eye-ground changes.

A general cardiac as well as a vascular examination is necessary in all patients suffering from syncope.

DIAGNOSIS OF CANCER

(E. P. Alyea & A. F. Henderson, Durham, in Jl. A. M. D., Cancer, Aug.)

To suspect cancer is the most important consideration in cancer diagnosis. In the large majority of cancers, its presence is betrayed in the early stages by symptoms and signs. The majority of cancers are in the skin, the alimentary, the genitourinary, and the respiratory tracts. The ones deep-seated and hidden usually betray their presence in their early stages. Stomach cancer will cause loss of appetite and indigestion. Early intestinal cancer will cause constipation or increased constipation. Cancer of the rectum causes rectal irritation and increased frequency. A feeling of relief does not follow exacuation. Sooner or later blood and mucus appear. Cancers of the uterus and cervix and of the urinary tract will be betrayed by bleeding. Lung cancers usually betray their presence with a dry, hacking cough, deep-seated pain and bloody sputum.

The diagnosis of cancer in its early stages is not too difficult in the large majority of cases, provided we are thoroughly familiar with the early symptoms and signs. If we are we suspect cancer, the most important considera-

tion in cancer diagnosis.

Be painstaking and thorough in obtaining histories and in making physical examinations. Adequate facilities and equipment are necessary for the examination of our patients, or it won't be done.

Cancer diagnosis calls for help—no one can do it alone—moreover no one can afford to assume the entire responsibility. Errors in diagnosis are too costly to the victim because he pays with his life and then to us physicians who are proud. We feel injured when disgraced or criticized, which we are bound to be if we fail in meeting our responsibilities, because cancer does not cure itself. Failures of diagnosis catch up with us.

Relatively few are trained or equipped to treat cancer, but all of us have to diagnose cancer. Diagnose cancer while it is still a problem. Do not wait until it is too easy.

HEREDITY AND CANCER

(Jas. Ewing, New York City, in Bul. Amer. Soc. for the Control of Cancer, Aug.)

Daughters of mothers who had cancer of the breast are more likely to develop this disease than the average woman. The hereditary tendency to cancer affects, not the body as whole, but only the particular organ (breast, uterus); or the particular system, as the skin or the mucous membranes lining the gastrointestinal tract, in which the cancer in question had occurred. Thus cancer of the breast in one person indicates an increased tendency to cancer of that organ in the mothers and sisters, but has no relation to cancer of any other organ.

When cancer of the breast occurs in one member of the family the sisters in that family are more prone to develop cancer of the breast than is the average woman (in the proportion of about 4 to 1); and the same rule may be stated for cancer of the uterus, but less definitely.

The best example of a hereditary cancer is glioma of the retina. This disease occurs in infants, chiefly before the 4th year, and most of the children in the family are affected—in one recorded instance 10 of 16 children, and in another all of 8 children.

Hereditary susceptibility is probably an essential condition in the occurrence of all tumors. The disease itself is not transmitted, but only the tendency. These tumors are not preventable but they may be detected early and often cured.

Those drugs, including the opiates, physostigmine, prostigmine methylsulfate and the choline derivatives, which stimulate motility of the small bowel inhibit the colon. Solution of posterior pituitary and pitressin produce powerful contractions of the colon but diminish motility of the small bowel. Postoperative distention may be due to the paralyzing action of morphine on the colon.

-C. B. Puestow, Chicago, in H. A. M. A., Nov. 21st.

Pollen Allergy (Hay Fever)

LEO CONWAY, M.D., Denver, Colorado

THROUGHOUT the centuries, as attested by the records of Hippocrates, the first physician, man has suffered and died from conditions and diseases of the respiratory tract. In different races, in various countries, and succeeding generations, the nature of illness has changed; but, today, perhaps the most troublesome and incapacitating condition of the nasal and lung passageways is the hay fever of the 19th, now Pollen Allergy of the 20th, Century.

Faculties of taste, smell, vision and even hearing are impaired, or sometimes destroyed, by the pollen of trees, grasses and weeds. From childhood to senility, pollen runs rife. The obstructed nose, zealously guarding the interior structures, closes against passage of air polluted by pollen. The nasal mechanism, in full defense, guards well the vital membranes of the respiratory system. The shock troops assemble to expel the enemy; and violent combat results in sneezing; but irritating grains squeeze through, and coughing, followed by spasms of the smooth muscles in the bronchi, and a flood of secretion containing cells from the blood stream, pour forth to the death of the attackers and the defenders as well. The victim, with protean manifestation of his affliction, presents a pitiful picture. Eves reddened and weeping, nose obstructed and discharging, uncontrollable itching with coughing and secretion, turns him into a changed being.

The typical description above is only part of the picture. The further effects may be atypical, and much more incapacitating. The disturbance of vision may leave one less alert, and unable to competently perform regular duties. Interference with smell and breathing affects not only the zest in life, but also deprives the lungs of properly filtered air, resulting in far-reaching change in respiratory benefits—that is, the inadequate exchange of oxygen and carbon dioxide. Then the enervation, the mental depression, and fatigue caused by uncontrolled allergy give rise to reactions, both mental and physical, which not only lower efficiency, but take a toll in psychiatric injury, as well as jeopardizing employment.

So man, in his progressive development from the primitive state, has lost his faculty to differentiate between inoffensive and offensive agents. If allowed to go untreated and uncontrolled, the sufferer, in many cases, becomes asthmatic. The mechanism

of breathing is impaired: the chest convulses: sweat oozes on the surfaces of the body: the face and extremities become cyanotic because of lack of oxygen. Sitting dejectedly, unable to talk, rhythmically and forcibly inhaling and exhaling, he violently awaits surcease of suffering. Asthma is seldom fatal; but the sequel to disability therefrom leaves one's life changed if the condition is permitted to continue for more than a few weeks or months.

"The common cold"-the etiology for which scientists have searched unceasingly since its inception with the birth of man-has thus far baffled its would-be conquerors. Its treatment, likewise, has proved inadequate to date. Could colds be allergy? Could they not be due to the devastating effects of pollen leaving an impairment of so-called resistance in the protective mechanism of human beings? Even though one does not present the apparent symptoms and signs of pollen allergy, it is possible that there is an invisible reaction due to these sinister dusts which leaves us susceptible to the virus supposedly operative in causation of colds. The answer is not available yet. However, it was accidentally discovered that patients in whom pollen allergy was controlled were free from colds during the season in which they had been frequently afflicted theretofore. Further investigation revealed that many patients who had had sinus conditions were singularly free from involvement following successful treatment of their allergy by oral method. These observations open another avenue of approach; and, while not convincing in so brief a study, they bear scrutinous survey, relative to future work on the infection of the respiratory system.

Treatment, both pre-seasonal and co-seasonal, has been in a state of abeyance for twenty years, as far as the profession in general is concerned. It is now prepared to emerge into an era which will reduce, if not entirely eradicate, this enemy to health and comfort.

For many years, pollen has been administered by hypodermic: but, because of failure of a large number of patients to gain relief, and the danger of a fatal reaction, it has never been possible to increase the dosage to assure complete success by this method. Therefore, the stage was set for the entrance of oral pollen, which can be administered with the folowing advantages: 1. Complete relief.

2. Absolute safety. Whereas deaths have been reported from hypodermic injections of pollen, there have never been any ill effects from oral administration of pollen (except for slight temporary reactions producing symptoms). Patients have accidentally taken as much as 125 drops without harm, although 60 drops per day has been the largest amount found necessary to control pollen allergy.

Flexible dosage, to meet individual and seasonal requirements, is advantageous, because the dose of concentrated solution can be dou-

bled in any one day.

4. The cost of Oral Pollen to the patient is onethird to one-half of that given by hypodermic.

Since 1934, when oral antigen was first perfected in my laboratory, astounding results have been obtained. In 1600 cases, no ill consequences have resulted. The parents of one boy believed he developed leukemia, and two women swore they had become pregnant because of its use; but proof was not presented to vertify these contentions. Ninety-four per cent were completely free from symptoms, according to their expressed opinions. The remaining six per cent were partially relieved. Of these six per cent, no one of them followed directions; but this may not have accounted in full for the unsatisfactory outcome. Pollen can be inert for many reasons, and opportunity was not permitted to ascertain the cause of failure.

Shortly after the beginning of the use of Oral Pollen, it was discovered that co-seasonal treatment was just as effective as pre-seasonal prevention of pollen allergy. It is still generally considered by physicians and laymen that, after symptoms of pollen allergy have developed, it is imposible to give relief; but no one has failed to obtain satisfactory results by the oral method when directions were accurately followed.

Success in oral pollen therapy has been based upon the observation that each patient requires adjustment of dosage to overcome symptoms. It was then established by trial and error that one patient reacting four plus to a pollen test may only need half the amount of pollen for relief that another patient would need.

Pollen treatment sets, both oral and hypodermic, now available to the profession, contain equal content of pollens; and are not in liquid solution, which, in my opinion, is more stable and permits of more accurate and potent dosage. I believe that it is a mistake to give every patient equal quantities of pollen.

Pre-seasonal administration is begun four weeks before the scheduled onset of symptoms. Dosage of the 2 per cent concentrated solution in glucosealcohol diluent is begun with one drop, and in-

creased by one drop to twenty daily. After the symptom season begins, the dosage is advanced rapidly-five drops daily, until forty or fifty are reached. If symptom-free, the dosage is pegged; and is not reduced until the pollen peak has been recorded. The minimum and maximum dosages have been established between 20 and 70 minims (drops) daily. Over-dosage is infrequent: and has occurred only during the first few weeks of treatment in a few patients. It has been necessary, in six super-sensitive patients, to dilute the solution to 1 per cent. After the first year, 90 per cent of the patients have learned to adjust their own dosage. Occasionally, new pollen sensitivity has developed. This has been determined by retesting: and has been overcome by adding new pollen to the solution. Seven patients have discontinued oral pollen treatment because they have had complete relief from sensitivity.

The greatest difficulty was experienced in treating patients who travel constantly. This problem was finally solved by supplying pollen solution for all of the different areas through which they travelled. The patient is instructed to change solution when he enters another pollen area. One asthmatic patient who travelled had spent several weeks in an oxygen tent each summer; but has enjoyed complete relief by the oral route for four seasons, without requesting aid in adjusting his dosage since the first summer.

It is possible for the physician referring the patient to do his own tests, and send the complete list of positives and negatives to us for preparation of the oral pollen solution. It is interesting to note that only two out of ninety patients tested by their own physicians needed retesting later. The failure in these two cases was attributed to inert pollen used in testing. Laboratory facilities are now available for furnishing fresh test sets and treatment solution for any region in the United States; and any physician may obtain these upon request.

Food, and other allergens, were not frequently encountered to complicate desensitization, although in some areas this is more widely encountered than in Colorado.

Recently, working in the San Joaquin Valley, in California, such complicating allergens were rather frequent. One spectacular observation was that of a patient who had been treated by hypodermic for several seasons for pollen asthma, without relief. It was immediately apparent from her pollen survey, which had been accurately made, that some allergen, other than pollen, was operative. Tests revealed a four-plus reaction to wheat. The removal of wheat from the diet left the patient symptom-free.

Treatment of the Thyrotoxic Patient Who Has a Concomitant Surgical Condition

ABRAHAM STRAUSS, M.D., F.A.C.S., Cleveland Mt. Sinai Hospital

THIS PAPER deals with the problem of treating thyrotoxic patients who have another surgical condition besides goitre. These problems fall into three groups. A) Those in which the second condition requires immediate intervention to save a life. B) Those in which second condition requires surgery but is not an emergency. C) Those in which the thyrotoxicosis develops following other surgery.

The author has met the first two types and has been guided by the dictum that whenever possible the thyrotoxic condition must be taken care of first

In the first group of cases this is not possible surgically. But the important point is to recognize the thyrotoxic factor. When this is noted the preparative care and medication must be administered with the idea of combating the thyrotoxic reaction. Therefore one should administer iodine intravenously in 10-per cent glucose solution and give morphine and atropine, while making other preoperative preparations without delaying the emergency operation. Failure to cope with the thyrotoxicosis may mean death in such cases, just as is true of failure to recognize thyrotoxicosis concomitant with less urgent surgical conditions.

Under this heading can be grouped such urgent indications for surgery as acute appendicitis, suppurative cholecystitis, ruptured peptic ulcer, intestinal obstruction, ruptured ectopic pregnancy, twisted ovarian tumor, ruptured viscus, perinephritic or intraäbdominal abscess, empyema thoracis etc. The following case is an example of this group:

The mother of two children, 32, was referred to my service on June 5th, 1940. It was the patient's first visit to me. She had been taken ill forty-eight hours before with diarrhea and abdominal cramps. Later the pain settled in the lower right quadrant where it persisted. She had not vomited. The history revealed nervousness, tremor, loss of weight (24 pounds in 1½ years) and palpitation. She had had profuse sweats. She had never sought treatment for these symptoms and was glad she had reduced.

Examination: Patient lying in bed appears acutely ill, expression anxious, face and extremities twitch with chorelform movements. She complains of pain in the right lower quadrant. She has slight exophthalmos, enlarged thyroid, left lobe larger than right; marked tremor of fingers. Chest negative. Abdomen: marked tenderness, rigidity and spasm at McBurney's point and a little below. Temperature 99.6, p. 130, b. p. 170/60. R.B.C. 4,300,000, Hgb. 85%, W.B.C. 9300. Diagnosis: Acute suppurative appendicitis and thyrotoxicosis.

Course: While patient and operating room were being made ready an intravenous infusion of forty drops of iodine in 1000 c.c. of 10% glucose was given; 1½ hours before operation a hypodermic of pantopon gr. 1/3 and scopolamine, gr. 1/150, and 1 hour later pantopon gr. 1/6 and scopolamine gr. 1/300.

Appendectomy was done through a McBurney incision. Pulse rate was 170 at the start of the operation, 150 at the end. The blood pressure dropped from 180/60 to 150/80. That same night the patient's temperature rose to 107.8, pulse to 160, respiration to 30. However, as a result of the sedatives she slept and the next morning said she had the best rest she had had in over a year. Her temperature fell to 102 the next day and gradually to normal by the seventh postoperative day. At the same time her pulse dropped to 90 and respiration to 22. Lugol's 10 drops t.i.d. started.

Blood taken on admission showed sugar 167, NP.N. 44, creatinine 2.4. Two days later blood sugar was 108, NP.N. 23, creatinine 1.5. The first basal metabolism, made June 15th, was plus 23, June 17th it was plus 7 with pulse 72. So, on June 21st a thyroidectomy was done under avertin and N₂O and ether anesthesia. Both lobes were resected. Forty drops of Lugol's solution in 1500 c.c. 5-per cent glucose was given intravenously postoperatively, also cold packs and pantopon. The next day her temperature was 105, pulse 130, respiration 40. Temperature, pulse and respiration fell rapidly to normal on the fifth day and the patient was discharged, well, July 5th, one month after admission. She has remained well to date.

Pathological report, Dr. L. Hirsch: Acute gangrenous and suppurative appendicitis (considerable), acute fibrino-purulent regional peritonitis (considerable). Thyroid: Focal areas of hypertrophy and hyperplasia (marked). Specimen weighed 20 grams.

A similar case of hyperthyroidism was that of a woman who had refused treatment at various times.

A matron, 48, was admitted to the hospital the afternoon of June 1st, 1941, suffering severe pain in the left lower abdomen and low back. The night before she was suddenly seized by severe sharp pains around the navel. The pains were constant and did not radiate. She vomited 10 or 12 times. She was constipated, and enemas brought no returns. Her history was noteworthy for amenorrhea for 13 months, frequent hot and cold flashes, and dizzy spells, loss of 14 pounds in the past year, increasing nervousness and palpitation, and increasing size of the lump in her neck. She had been married 27 years and had no children. She had an appendectomy nine years previously.

Examination: Nodular goitre, tremor of fingers, no eye signs. Abdomen distended, marked spasm of the lower abdomen, with tenderness more marked on the left. Her temperature of 100 rose to 101.5, pulse was 120. respiration 24. Urine was negative, blood count normal. The impression was that the patient had a moderate thyrotoxicosis and an intestinal obstruction. A flat-plate picture of the abdomen was taken and reported:

"Numerous moderately dilated loops of jejunum and ileum located for the most part to the left of the midportion of the abdomen. Colon partially collapsed." Impression from this was partial obstruction of the first portion of the ileum.

. Given sedation, Wangensteen suction, and an intravenous injection of glucose with Lugol's solution 40 drops, the next morning her basal metabolism rate was plus 53, pulse 138. Distension was unrelieved, abdominal pain and signs continued. A laparotomy was performed. Many firm adhesions were encountered; one loop of the ileum was bound to a large left hydrosalpinx. The ileum was freed, a salpingectomy done and the abdomen closed. Lugol's solution was continued in the postoperative treatments.

Basal metabolism rate and pulse as follows: June 11th plus 24 and pulse 96; June 13th—plus 29 and p. 90; 16th

-plus 31 and p. 96.

On June 17th I performed a bilateral subtotal thyroidectomy. Convalescence was uneventful. On June 23rd her basal metabolism rate was plus 16, pulse 86 and she was discharged.

The third case belongs in the second category, a hyperthyroid with a deferrable surgical condition.

A matron, 55, referred May 28th, 1941, with complaint of a tumor of the left breast. She had had a cholecystectomy in May, 1928; had been under the care of her doctor for a few years for hypertensive cardiovascular disease, hyperthyroidism and mild diabetes. Lugol's solution 5 drops t.i.d. had controlled the nervousness. She would never give her consent for a thyroidectomy. She first noticed a lump in her left breast three days before admission while bathing. There was no pain, no tenderness, no discharge from the nipple. She was obese. There was a large nodular goitre, the left lobe larger than the right. No eye signs nor tremor, b. p. 210/120, p. 84, r. 20, t. 98. The breasts were pendulous, of equal size. There was a hard non-tender irregular mass 2 cm. in diameter in the lower outer quadrant of the left breast. There was atrophy of the overlying fat and retraction of the skin. Urine showed albumin one plus. Blood count was normal. Blood sugar 100, NP.N. 38, creatinine 1.5, CO₂ 39.3. Ten drops of Lugol's solution t.i.d. phenobarbital, grains 11/2 b.i.d.

Basal metabolism and pulse rates as follows: May 29th
—plus 34 and pulse 108; 31st—plus 30; June 2nd—plus

23; 11th-plus 17; 12th-plus 17.

On June 2nd bilateral partial thyroidectomy and excision of the tumor mass of the breast was done. Pulse 150 at start of operation and 115 at the end. Postoperative thyroid treatment was administered and, because there was to be a delay in the radical mastectomy, x-ray therapy was started with the idea of preoperative prophylaxis. The radical mastectomy was performed June 16th without any thyrotoxic reaction.

Report of pathologist, Dr. A. M. Young: Thyroid: nodular goitre with focal areas of hypertrophy and hyperplasia. Degenerative changes with areas of scarring, hemorrhage and defect formation. Lymphoid proliferation. Breast: Duct carcinoma 5 cm. in diameter in great part undifferentiated. Metastasis to axillary lymph node.

Dr. J. A. Lehman's patient refused thyroidectomy before a radical mastectomy so he prepared her by giving her Lugol's solution for ten days before operating. (Discussion of paper by Muller, Geo., and Surver, Jas., in *Penn. M. J.*, February, 1940.)

We met no case of the third class which, however, are reported in the literature.

Cases of this general class may be divided into two groups according to whether or not the thyroid disease was recognized before the operation. There are fatalities reported in each group, though the latter are of course the more shocking. In Greene's known case of thyrotoxicosis death resulted from thyroid crisis after injection for varicose veins. Grace and Week reported sixteen cases, seven of their own. In their list were thirteen major operations, four of which were emergency. There were five deaths among the thirteen, three in 18-60 hours without administration of iodine because the condition was not recognized. Cuniffe reported three cases-thyrotoxic-recognized three weeks after the cholecystectomy. Iodine was given then intravenously but death ensued after one week. He knew his second patient had an adenoma before he operated but he administered no iodine because her basal metabolism rate was plus seven. She died three days after hysterectomy from thyroid crisis. In his third case, there was a preoperative basal metabolism rate of plus 16 and death ensued on the second day after hysterectomy.

Thus, forewarned should mean forearmed. No case of hyperthyroid disease should be taken lightly when a second surgical condition in that patient requires operation. When that operation can be postponed the interval should be utilized to prepare the patient for thyroidectomy first. It is not a good plan to treat the patient with iodine and then operate for the second condition first, believing that the thyroid condition is controlled. A thyroid crisis may result which cannot be controlled. The first lead to an unsuspected thyroid reaction may be noted by the anesthetist reporting the pulse rapid out of all proportion to what might be expected.

Forbes reported a case of toxic adenoma operated on five years previously in which he gave 15 minims of Lugol's solution t.i.d. for four days preceding excision of the cervix and ventral suspension. Ten days after operation t. rose to 104, p. 164, necessitating Lugol's solution intravenously and subcutaneously. Fortunately in this case the crisis was controlled. This shows that even a treated thyroid may flare up after a major operation, and emphasizes that one should always be on guard.

Muller and Surver report a case of a woman, 49, who had had a bilateral subtotal thyroidectomy performed five years previously. She, too, had a crisis after a Fothergill repair. Thus a patient once operated on for goitre is not always secure at a later operation even after due preparation.

Bagley reported six deaths from thyroid storm following surgical procedures, one after two cystoscopic examinations. He recorded eight deaths from crisis initiated by infections without any operative interference and nine deaths attributed to therapeutic and diagnostic procedures. It may be surmised that earlier or more intensive treatment would have averted thyroid crisis.

In Conclusion

The first two cases coincide with the experience of others that only emergency surgery may be undertaken in the presence of a thyrotoxicosis.

The third case justifies the dictum that whenever possible a patient suffering from a toxic thyroid condition and a deferable surgical condition besides should have the thyroid operated on first.

Finally, cases are cited to show that a patient who was once operated on for toxic thyroid disease is still liable to suffer a thyroid crisis or even death after an operation for another lesion in spite of preoperative care directed toward preventing it, and that one must be on the alert to treat thyroid storm in patients operated on for lesion other than thyroid when thyroid disease had not been suspected before.

-1723 Republic Building

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POLLEN ALLERGY—From p. 5 SUMMARY

- Pollen allergy is becoming more prevalent, or is better recognized, within the United States.
- Pollen allergy occurs at all ages; and impairs normal function, even causing disability (usually when asthma develops).
- 3. Oral treatment completely relieves symptoms—is absolutely safe—can be given in larger, more effective doses than by hypodermic—is simple to administer—and is more economical than the hypodermic treatment.
- 4. Test sets and therapeutic solutions are available for all pollen areas in the United States.

- Consultation with allergists may be necessary in resistant cases.
- Co-seasonal treatment is equally as successful as pre-seasonal treatment, contrary to general belief
- 7. Travellers through different pollen areas cannot conveniently obtain hypodermic treatment; but satisfactory control of symptoms can be assured by the oral method.
- 8. Complete desensitization has been reported in a number of cases; and it is hoped that eventually all pollen allergy will be simply and effectively

HANDLING OF TYPHUS PATIENTS

(Therapeutic Notes, Oct.)

In the British Isles "typhus teams" have been organized. Team members are provided a one-piece garment with a hood fastening down the back with a zipper. A tape runs around the face aperture of the hood and ties under the chin. Tapes and elastic draw the sleeves closely around the wrists. Gumboots and long fabric gloves are worn and face mask if desired. During removal to hospital the patient is enveloped in a large sheet and is transported in a vehicle that is easily freed from lice. The patient is admitted to a special bathroom, stripped, deloused, and clad in hospital clothing before being taken to a ward set aside for the purpose. Delousing includes complete and careful delousing of person and clothing-close cutting of the hair, shaving where necessary, and careful bathing. He is thoroughly soaped all over and cleansed in such a way that all lice are destroyed. Hospitals provide a room where the staff changes into protective clothing. After use the clothing is left in this room for disinfection. The staff passes next to a bathroom and finally to the room where their ordinary clothing is kept.

The origin of infection is carefully traced and all those who have been exposed to risk are deloused and kept under observation for three weeks. Heavily infested people are deloused a second time after an intreval of ten days.

The treatment of typhus fever is entirely symptomatic. Von Weigl has reported that serum from horses immunized with *Richettsia prowazeki* given early modifies the severity of the disease.

Two distinct strains or types of R. provaazeki are recognized: R. prowazeki var. prowazeki, the cause of epidemic typhus, and R. prowazeki var. mooseri, the cause of the milder and endemic form. This form of the disease (murine typhus) is carried from rat to rat by the rat louse and from rat to man by the rat flea.

Brill's disease, recrudescent typhus, is a mild form occurring predominantly in Russian and Polish immigrants and most frequently seen in our our port cities.

Trench fever or five-day fever caused by *R. quintana* is a disease closely related to typhus except that it is less severe.

The Family Doctor

I am still unconvinced that the family doctor is an anachronism. I still want somebody to save me from unsuitable or excessive specialists' advice; I need someone to coördinate the findings of specialists and discount them if necessary; and above all I want someone who is willing to talk to me, at length, about my migraine, my little boy's delinquencies, my wife's recent strangeness, my baby's inoculation, and my daughter's desire to marry a man with asthma.—"Onlooker"—Lancet.

The B Vitamins and Certain Problems They Present to the Practicing Physician*

L. EMMETT HOLT, JR., M. D., Baltimore Johns Hopkins Hospital

THE B VITAMIN era in which we are now living I may be said to have begun in 1928. Prior to that time the only recognized form of vitamin B deficiency-frank beriberi-was regarded as an Oriental disease which rarely if ever occurred in the United States. In that year, however, Hoobler, who had just returned from the Philippines, expressed the view1 that mild vitamin B deficiency was common in this country, particularly among children, and that such symptoms as pallor, anorexia, failure to gain weight and irritability were frequently caused by lack of this vitamin. The manufacturers of foods and pharmaceuticals promptly took up this suggestion and many products fortified with vitamin B made their appearance. I can recall a discussion of the subject with some of my colleagues at that time. We all agreed that a period of vitamin B exploitation-both to the public and the profession-was ahead of us, but that in all probability the new enthusiasm would last only four or five years, after which the facts about vitamin B would become relatively clear and its place in therapy would be clearly defined. Little did we guess that the B factors were destined to multiply like the proverbial rabbit, and that each member of that prolific family would have to find its place in the medical firmament after many a painful struggle and false step. Least of all did we anticipate a development that has come only in the past two or three years, an appreciation of the possibility that nutritional factors might be playing a role in a variety of pathological processes where such a relation had never been suspected. Today laboratory workers are studying the relation of nutrition to infectious disease, to allergy, to neoplastic and degenerative conditions, and very recently evidence has appeared that even congenital malformations may have a nutritional basis. Clinicians in every specialty have become acutely vitamin conscious. It is an old story for the pediatrician, who has for some years been supplementing his diets routinely with accessory factors, but it is only recently that internists, surgeons, dermatologists and neurologists have fallen into line. Even the obstetrician has not escaped the contagion; perhaps he has been impressed with the slogan "Life begins with Vitamins Plus." And, as for the psychiatrist, he has had to prick up his

ears at the astonishing suggestion from the Mayo Clinic² that neurotic manifestations could be laid at the door of thiamin deficiency.

It is difficult to keep our balance when so many therapeutic marvels wrought by vitamins are paraded before our dazzled eyes. We are subjected to propaganda from places high and low, and one of the most difficult to combat is that which comes from the home itself. I can speak with feeling on this latter point, for it is an acute problem in my own family. My ten-year-old daughter has far greater respect for the admonitions of that eminent straight shooter, Tom Mix, than for her father when it comes to the selection of breakfast foods, and she has become thoroughly conditioned to demand foods which contain "that wonderful health giving, vitality giving vitamin B1." The small boy whose greatest ambition is to be a professional baseball player is impressed when he learns that the Cardinals take Grove's vitamin pills every day-vitamins that give strong and steady nerves-an obvious explanantion for their victory over the Yankees who take no vitamin pills. And, as for the impressionable housewife who wants her family to have all the sterling qualities, how can she fail to be impressed when she hears transcribed announcements3 like the following:

"Get your health the army way! The War Department has ordered that all bread given to the U. S. Army must be enriched. 'XX' bread is enriched with extra vitamins which the government nutritionists recommend—vitamins that help to build vitality, stamina, endurance—qualities needed by soldiers and civilians alike. Get these extra health values. These nerve calming vitamins will help you to feel stronger, peppier and to avoid the war-time jitters. They are essential to vibrant health and sturdy growth in children."

What effect does such an advertisement have upon the listener. It certainly conveys the impression that if one eats ordinary plain foods which have not been specially reinforced, there is danger of loss of stamina, vitality and health, and of having the jitters in general. It tends to encourage the purchase of vitamin pills in the drug store.

An even more pernicious announcement in my opinion is the following:

"Has the butcher said to you 'no beef at any

^{*}Presented before the Medical College of South Carolina Refr esher Course, Charleston, S. C., Nov. 5th, 1942.

price'? Then listen, here's an inexpensive and delicious way to give those extra vitamins. Serve enriched 'XX' bread. Superb energy values and protein."

The housewife is led to believe that superb protein values are given by this enriched bread and that a short ration of meat has no particular significance as long as she gets the enriched bread. She does not know that bread at its best is anything but a superb protein food and that the enriched bread of today often supplies less protein in the form of milk solids than did the unenriched bread of yesterday. The public is getting more vitamins but less animal protein.*

The advertisements which I have read you are not uncensored products of the commercial mind. They are all submitted in advance to the U.S. Food and Drug Administration, which can, through the Federal Trade Commission, control any advertising that is regarded as misleading. It would appear that such advertising is regarded as in keeping with the national policy of promoting the sale of enriched bread. That policy has much to be said for it, but I believe it has overshot the mark in some respects and I view some of its possible consequences with real concern. No one will object to the addition of nutriments to a standard food which do not increase the cost of that food, provided that other properties of the diet are not adversely affected.

There are indications, however, that the enrichment program is operating to decrease the dietary protein intake in several ways. It adds an item of cost to the bread, thereby making it more difficult for the baker to purchase his customary quantity of milk solids. The advertising campaign for enriched bread has caused a marked increase in bread consumption⁴ and one may well inquire whether this relatively poor protein food is not displacing foods with greater protein values. Advertising

which leads the public to conclude that enriched bread has "superb protein values" and can be used as a substitute for beef is obviously misleading and dangerous in its possible consequences.

At the present time there is room for debate as to whether there is more danger of B vitamin deficiencies or of protein deficiency in our diets. From my own experience, I would say that protein deficiencies were the more common. But regardless of the status today, with meat rationing facing us in the near future it seems quite clear that the danger ahead is one of inadequate protein intake. As physicians we have an obligation to educate our patients in matters of diet. We need not deny them the pleasure of eating B vitamins but we should teach them to resist the wiles of the advertiser who would substitute bread for beef, and we should make certain that their protein requirements are not neglected.

VITAMIN THERAPY IN MEDICAL PRACTICE

Let us turn for a moment to the very practical question of the use of the B vitamins in practice. I shall discuss only the three major vitamins of this group—thiamin, riboflavin and nicotinic acid, for the other factors have as yet no established place in therapy.

We have three problems to consider here: (1) therapy of the frank deficiency states; (2) therapy of early or preclinical deficiencies; and (3) therapy of a host of other conditions not necessarily associated with deficiency in which alleged benefit from vitamins may be due to some pharmacological action they possess. I shall not linger over the first or the third problem. There is no question about the success of vitamin therapy in the frank deficiency states which most of us almost never see. Likewise, it now seems clear that beneficial effects from vitamin therapy are not seen unless the subject is deficient.⁵ The difficult task, one which still troubles us all, is to discover and treat early defi-

*Statistics showing the extent of milk reductions in bread are not available, but it is common knowledge that these have been widespread. Inquiries in Baltimore indicated that approximately 20 per cent of the bakeries had done this. Information furnished us by Mr. Victor E. Marx of the American Dry Milk Institute for an area of Michigan showed that nearly 50 per cent had done so. His explanation may be quoted: "At the time that the government, the vitamin manufacturers and other organizations were pressing hard to convert all bread to enriched bread, the price of milk was constantly rising, due to the demands of the government and Lend Lease for increased amounts. This worked a hardship on the baker, because he was faced with a demand on the one hand to enrich his bread at considerable cost, and an increase in the price of his normally used ingredient, dry milk solids, at the same time. While this was going on pressure was used to hold down the price of bread and ultimately a ceiling was placed upon it, so that the baker was forced to choose between enrichment or lowering his cost by reducing other ingredients. Since in that period milk had become one of the higher priced ingredients it was only natural that some of them would reduce the amount of milk in order to compensate for the added cost of enrichment." Inquiries among a number of bakers who had reduced their milk solids as to the reason therefore has in general supported Mr. Marx's statement. Most of them point out that all of their production costs have risen and that the cost of enrichment was only one of several factors that forced them to economize. Inability to obtain milk solids does not seem to have been a factor in the case, for although the government in November, 1942, placed restrictions on the sale of certain forms of dry milk, drum dried skim milk, a type that can be used for bread, has been and is still purchasable. The following comment from one baker is illuminating as indicating the relative publicity value of enrichment by milk and by vitamins: "Two years ago we raised the milk solids content of our bread to 12 per cent and advertised it as a 'milk bread.' The campaign was not a success. We have now fallen in line with the enrichment program; we have reduced the milk solids to 6 per cent and are advertising 'vitamin enriched bread.' It is going ciency before the frank deficiency syndrome has developed. We may turn to experts for help here. The accompanying slide shows the symptoms and signs in young subjects which should lead us to suspect incipient vitamin deficiency (I have in-

Chronic Diarrhea

Only when such evidence is at hand which points to a reasonable possibility of B vitamin deficiency are we justified in advocating vitamins beyond those contained in normal balanced diets.

Is there any harm in giving B vitamins? Aside

TABLE 1

Symptoms Lack of Appetite Failure to Eat Adequate Breakfast Failure to Gain Weight Retarded Muscular and Mental Development Backwardness in School Aversion to Play Inability to Sit Poor Sleeping Habits

Tentative Clinical Criteria of Early Nutritional Deficiency in Infants and Children Signs Pallor Loss of Subcutaneous Fat Poor Muscle Tone Nasal Blackheads and Whiteheads Rapid Heart

cluded only those pertaining to the B vitamins) as compiled by the Subcommittee on Medical Nutrition of the National Research Council which includes the most eminent names in this field. Unfortunately, this list is followed by the statement that "none of these findings is diagnostic." The presentation of this committee reflects accurately our knowledge today. I have no criticism of it to offer, but I wish to point out that the best of our knowledge today leaves us in a therapeutic dilemma. Is it our duty to give patients who exhibit any of these findings the benefit of the doubt and treat them with vitamins? or must we use our judgment based on other criteria not mentioned? I submit that it does not behoove us to give a dose of vitamins to every child who doesn't eat his breakfast, who sleeps poorly or shows a disinclination to play with the neighbor's children or who has nasal blackheads. Before we prescribe vitamins we should exercise our judgment in every instance to rule out other causes for these symptoms of which there are legion. And, in addition, we should have evidence from the history of some condition that might lead to vitamin B deficiency. The conditions known to predispose to B avitaminosis are as follows:

- 1. An unbalanced diet-predominantly of refined carbohydrates-which adds to the B requirements as well as diminishing the supply of these factors. Patients nourished by intravenous glucose alone may be included in this group.
- 2. Disturbances of digestion which interfere with the assimilation of B factors.
- 3. Circulatory disturbances, such as post hemorrhagic shock,6 which interfere with the distribution of B factors.
- 4. Conditions which increase the demand for B factors: fever, hyperthyroidism, exercise, pregnancy, lactation, an overactive heart.

from the drain on the pocketbook, the contents of which might better be used for meat and eggs in many instances, I know of no harm that is done by the administration of B complex as a whole. Toxicity studies made with individual members of the complex have shown that enormous doses must be given before symptoms are encountered. The possibility of producing harm by an unbalanced intake of synthetic B vitamins is not so remote and it may be worth while to review the evidence on this point. The administration of thiamin to patients with polyneuritis7 8 9 has been followed by symptoms of pellagra. The administration of pure riboflavin to rats has been shown 10 11 12 to bring out symptoms of latent pyridoxine deficiency, and in humans we have obtained laboratory evidence13 that the administration of riboflavin will cause an increased demand for nicotinic acid. Analogous deleterious effects have been observed after the administration of nicotinic acid alone; pellagrins so treated have developed clinical manifestations of riboflavin deficiency14 or of beriberi.15 In dogs on a diet deficient in filtrate factors Morgan and her associates have observed that a lavish supply of nicotinic acid hastened the development of gray hair16 and other lesions17 of this deficiency. The evidence cited is a sufficient caution against the use of single B preparations in the treatment of frank or suspected deficiencies. The correction of a single deficiency may lead to the frank development of some other deficiency that was already present in a latent form. It does not follow that the normal individual is harmed by the administration of single vitamins. Nevertheless there are reasons for conservatism even here. The vitamins in question when taken in excess are not excreted quantitatively; they are in large measure destroyed and disposed of by mechanisms which are still obscure. These disposal mechanisms may involve the use of other vitamins, creating an abnormal demand for the latter. In the case of thiamin, which appears to be in large part phosphorylated after absorption, there is evidence that this process may require nicotinic acid. Lipton and Elvehjem¹⁸ have shown that at least one mechanism for the phosphorylation of thiamin by living tissue involves a nicotinic acid coenzyme.

The conclusion to be drawn from these facts is not that we should eschew the synthetic vitamins in our therapy—not at all, for they are potent and we may need them—but that we should always combine our single vitamin therapy with some B-complex preparation, preferably a natural one.

THE LABORATORY DIAGNOSIS OF EARLY VITAMIN B
DEFICIENCIES

The situation in regard to the indications for vitamin therapy is an unsatisfactory one, as all of us are aware. Many efforts have been made to develop laboratory criteria of early deficiency, but it is generally agreed that up to the present time no simple and practical techniques suitable for an average clinical laboratory have been available. For the last three years this problem has been studied in our laboratory, largely by my collaborator, Dr. Victor A. Najjar, and I shall describe to you such progress as we have made toward its solution. I may say that we now have simple procedures for detecting deficiencies of thiamin, riboflavin and nicotinic acid which can be carried out on a single specimen of urine collected under appropriate conditions. The body reserves of these three vitamins are reflected in the urinary excretion. A deficiency of thiamin or riboflavin is reflected in failure of these substances to appear in the urine. The excretion of nicotinic acid in urine, as now carried out, does not reflect the body store of this vitamin; we can, however, measure a derivative of nicotinic acid-a fluorescent substance known as F2-which does reflect nicotinic acid stores.

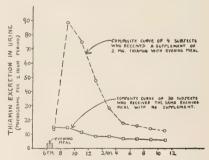
The measurements are made by fluorescence techniques. Thiamin is readily converted into the fluorescent substance thiochrome which gives a brilliant violet fluorescence in ultraviolet light. Riboflavin itself is easily extracted from urine and gives a yellow green fluorescence. F2, the fluorescent derivative of nicotinic acid, gives a pale blue fluorescence. By means of a fluophotometer highly accurate quantitative measurements of these factors in the urine can be made, but expensive electrical equipment is not necessary. The significant information—the presence or absence of one or the other of these factors in the urine-can be obtained, after appropriate treatment of the specimen,19 by examining for fluorescence in a dark box in which an ultraviolet lamp has been installed.*

If, for example, thiochrome fluorescence can be detected one can conclude that the patient does not need thiamin therapy, and if riboflavin or \mathbf{F}_2 is present in the urine, the conclusion can be drawn that the patient is not suffering from riboflavin or nicotinic acid deficiency.

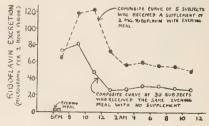
These statements must be qualified in one respect; the urine specimen to be analyzed must be collected under appropriate conditions. A casual specimen or a 24-hour specimen is of relatively little value, since the vitamins (or vitamin derivative in the case of nicotinic acid) may appear in the urine even in markedly deficient subjects as a result of a single vitamin-containing meal. In order to avoid this difficulty it is necessary to allow sufficient time to elapse after the last meal to permit the excretion of the excess of unstored vitamin ingested with the meal. A 12-hour overnight fast is sufficient for this purpose, for we have shown that the excess of unutilizable vitamin ingested with a meal is usually excreted in the urine within eight hours.

The course of vitamin excretion after a vitamincontaining meal is illustrated by the accompanying graphs (Figures 1, 2 and 3) which show the excretion of these factors in two-hour periods following an evening meal supplying one or another of these vitamins at different levels of intake.

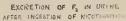
EXCRETION OF THIAMINE IN URINE AT DIFFERENT LEVELS OF INTAKE

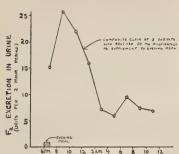


EXCRETION OF RIBOFLAVIN IN URINE AT DIFFERENT LEVELS OF INTAKE



^{*}A simple and inexpensive apparatus of this type is manufactured by W. A. Taylor and Company, 7300 York Road, Baltimore.





It will be noted that following the ingestion of vitamins there is a marked increase in the excretion of vitamin (or vitamin derivative, in the case of nicotinic acid). In the course of some eight hours the rate of excretion falls to almost a constant level, a level which is determined by the stores of this vitamin in the body. If the excretion is measured during an arbitrary period as, for example, the thirteenth hour after a meal, this value serves as an accurate guide to the body stores of vitamin.

In practice, this fasting hour excretion test, as we have termed it, is conveniently carried out as follows:

7 p. m. The subject is allowed to eat his evening meal as usual.

7 a. m. On arising he voids and discards the specimen. He then drinks a glass of water.

8 a. m. He voids again. This specimen is used for analysis. Breakfast is permitted only after the second voiding is obtained. If, by any chance, the subject is unable to void the second specimen one hour after the first, breakfast is withheld until it has been voided. The time interval is then noted $(1\frac{1}{2})$ or 2 hours as the case may be) and the excretion is calculated on a 1 hour basis from this.

The urine specimen is analyzed for thiamin, riboflavin and for F_2 (this last to measure nicotinic acid body stores).

Interpretation of the Test.—The quantity of thiamin, riboflavin or F₂ found in the test specimen indicates the extent of the body reserves of thiamin, riboflavin and nicotinic acid respectively. As long as any vitamin (or vitamin derivative, in the case of F₂) is found in the test specimen, this indicates that the body has a surplus available for excretion and that deficiency of that particular vitamin is not to be feared. A zero excretion value in the fasting hour test indicates, however, that no surplus is then available for excretion; such an

individual is potentially deficient and should be given additional vitamin in his diet.

The validity of this interpretattion is based on extensive data which we have obtained in the case of thiamin: limited data in the case of riboflavin and nicotinic acid indicate that the interpretation given above is valid for these two vitamins also. In the case of thiamin we have been able to show by means of experiments on rats that the stores can be expanded or diminished by altering the vitamin intake. Studies on human subjects which are described below have shown that individuals on a fixed diet, whose thiamin intake is reduced to such levels that they barely develop zero excretions in the fasting hour test, fail to develop clinical evidences of thiamin deficiency although their intake is very close to the range at which other observers have reported deficiency symptoms.

Advantages of This Test Procedure.—The advantage of this procedure over the 24-hour excretion measurement has been pointed out above. This test avoids the interfering effect of vitamins given in the immediate diet.

The test also has distinct advantages over the so-called "load tests" in which excretion is measured after a test dose of vitamins, the deficient individual retaining more of the test dose than the non-deficient one. Such load tests, when given orally, are greatly affected by conditions which impair intestinal absorption. When given parenterally, the renal threshold for vitamin excretion is likely to be exceeded because of the large quantity of vitamin presented for immediate excretion; this introduces an error in the result, particularly prominent under conditions of impaired renal function. Load tests are, furthermore, annoying because of the injection, the necessary omission of breakfast and of collecting urine for several hours after the test dose, inconveniences which are avoided in our procedure.

Disadvantage of the Fasting Hour Excretion Test.—The test has one disadvantage. It does not permit one to evaluate degrees of deficiency more severe than those which give a zero value in the fasting hour. In other words it permits one only to say whether or not adequate stores of vitamin are present. The more severe degrees of deficiency must still be defined by other tests, such as the various load tests.

It should be pointed out that our procedure, like all other tests which measure chemical deficiency, is subject to the limitation that it fails to reveal the cause of anatomical lesions that may remain after a chemical deficiency has been corrected. It must therefore be applied before a corrective diet or vitamin therapy is instituted.

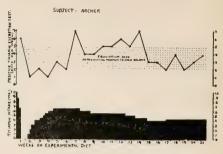
The Frequency of B Deficiencies.—What has been our experience in using these tests? In other

words, how frequent is so-called "subclinical" B vitamin deficiency? I would like to be able to answer that question, but I am not in a position to do so at the present time. No extensive surveys are vet available. Our experience with these tests in Baltimore can be measured only in months and we shall have to have more time. But I can say this. Evidence of thiamin deficiency has been found in 9 out of 10 of our cases of diarrhea in children. That is our most impressive positive finding. We have also found evidence of thiamin deficiency as well as riboflavin and nicotinic acid deficiency in badly neglected underfed children living mostly on refined carbohydrates. My impression is that the frequency of thiamin deficiency is very much overestimated at the present time and I shall give you some further evidence for that belief.

Estimates which indicate that upward of 40 million people in the U. S. A. are suffering from thiamin subnutrition are based on a comparison of family diets obtained in a government survey²⁰ with figures for thiamin requirements established by the National Research Council's Committee on Foods and Nutrition. This committee has set the allowance needed by the normal sedentary adult male as 1.5 mg, thiamin per day.

Dr. Najjar and I have recently investigated the requirement of the adult human for thiamin, using our "fasting hour excretion test" as a criterion of adequate thiamin reserves. We placed twelve experimental subjects, young male adults, on a synthetic vitamin-free diet, consisting of casein, lard and sugar, which was supplemented with a vitamin and mineral mixture. The intake of all the food ingredients was kept constant with the exception of thiamin which was varied until the excretion of thiamin in the morning hour specimen was just exactly zero. This was a more difficult matter than we anticipated, for we discovered that the thiamin requirement is influenced by the weather, and variations in temperature caused minor fluctuations in the thiamin output. We chose as an end point a thiamin intake which would cause spilling of thiamin in the fasting hour test about half the time. Tests were performed daily on each subject and the results were plotted weekly, as is shown in Figure 5. It was not possible to adjust the subjects so closely that they would continue to excrete thiamin three or four days out of every seven, but if the days per week in which positive excretion tests were obtained varied from two to five out of the seven they were regarded as in satisfactory equilibrium. Figure 4 shows the course of one of our twelve subjects who required nearly twenty weeks on the synthetic diet before we were reasonably sure that he was in thiamin equilibrium at the minimal level.

RELATION OF THIAMIN INTAKE TO THIAMIN EXCRETION IN URINE
IN FASTING HOUR TEST



In Table 2 are given the daily thiamin intakes required by our twelve subjects at a time when they had reached the minimal thiamin intake

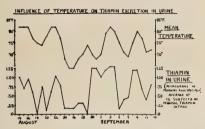
MINIMAL THIAMIN REQUIREMENTS
OF 12 EXPERIMENTAL SUBTECTS

OF 12 EXPERIMENTAL SUBJECTS			
SUBJECT	WEIGHT (LOS.)	MINIMAL THIAMIN REQUIREMENT (MG PER DAY)	
MAYHEW	135	. 375	
PORKET	132	.625	
LUMPKIN	123	.600	
PHILLIPS	120	.475	
KING	117	.425	
YOKUM	108	.475	
GREEN	107	.425	
MONROE	106	.450	
BUTLER	103	.500	
PLUSHKELL	101	. 425	
ARCHER	95	.425	
KANOW	95	.425	

as shown by a zero excretion test about 50 per cent of the time. None of these subjects showed any clinical evidence of thiamin deficiency. The average minimum thiamin intake for the group is approximately 0.47 mg. per day. The requirement of individual subjects does not seem to vary with the body weight, a finding which is in harmony with the observations of Elsom et al.21 It appears that the actual thiamin requirement of the sedentary adult male is less than one-third of the allowance set by the National Research Council's Committee on Nutrition. The conclusion reached by Stiebeling and Phipard20 that millions in the United States are suffering from thiamin deficiency merely because they ingest less than the N. R. C. standards does not appear to be warranted, in the light of our findings.

The Influence of External Temperature on Thiamin Requirement.—As was mentioned above the external temperature appeared to exert an influence on the thiamin requirement, as judged by the urinary excretion in the fasting hour test. The ob-

servation was made in a number of subjects who were closely approaching the equilibrium point that on hot days there would be a tendency for thiamin to spill out in the urine and on cooler days the reverse. In Figure 5 the mean temperature is plotted against the average daily thiamin excretion of our twelve subjects in the fasting hour test. The period covered commences four months after the onset of the study so that all of the subjects were



receiving quantities of thiamin close to the minimal requirement and only minor adjustments were made during this time. It will be noted that there is a striking parallelism between the environmental temperature and the quantity of thiamin excreted. We attribute the greater thiamin excretion in hot weather to a lessened requirement, resulting in a surplus for excretion. An explanation for the lesser requirement in hot weather is not at hand, but it seems likely that muscular activity was curtailed although a change in the general behavior of our subjects was not observed. The decreased thiamin requirement in hot weather is in sharp contrast to the observations of Mills22 in rats. He found an increased requirement in hot weather which was attributed to a loss of thiamin in sweat.

In concluding, I should like to recapitulate the thoughts I have expressed to you:

1. There is no doubt that we have overlooked B vitamin deficiencies in the past, but I think we are now erring on the other side and that we need to control the present—I might even say the official—enthusiasm for vitamins. It has potentialities for harm both to the pocketbook and the body.

2. I think we should have a good reason when we give vitamin therapy—a better one than the presence of some of the non-specific symptoms commonly mentioned in connection with vitamin deficiencies.

3. I believe that we now have at hand the means to find out with great exactness who needs vitamins and who does not.

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EXPERIMENTAL CIRRHOSIS dogs when fed very large quanties of carbohydrate and milk proteins remained in excellent condition. When fed on meat, they developed jaundice, hypoalbuminemia and ascites. Analyses of the urine during this toxic state, however, revealed negative nitrogen balances despite the high-protein diets.—J. P. Peters, in Jl. Ml. Sinai Hosp., Sept.Oct.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

SHAME ON YOU, SAM!

If the soldier, inducted into the United States Army should become insane within six months, he would be discharged from the Army and be returned either to his family or to his state as a problem in psychiatry. I think that statement is a fact.

But the action of the Army, if the statement is valid, is discreditable to the federal government and it constitutes a dreadful injustice to the mentally sick young soldier. Whether the expulsion of the military recruit, if he becomes mentally disordered within the first six months after he has been drafted, is made mandatory by an act of the Congress, or whether it is merely the result of a regulation of the Army, I do not know. It is difficult in these highly democratic days, I am told by able lawyers, to differentiate legality from bureaucracy. But the fate of the recruit, perturbed within his mind within the first six months of his military life, is the same. Mentally incapable of soldiering, if physicians of the Army say so, he is cast out of the Army, and the great government of the United States would probably ever afterwards keep him knocking forever and a day for readmission into the service from which mental disorder had detached him.

Recruits are taken into the Army by force of law. If men had been volunteering in sufficient numbers, there would be no need of the so-called Selective Service Act. The young man is taken into the service because of the need for him and because of his age and his health and his fitness for military duties.

The drafted man is taken into the service as a totality. His physical body takes into the Army with it all of his attributes; all of his potentialities; all of his latent weaknesses and liabilities and all of his inheritances.

The service sets up a sieve, composed chiefly of physicians, through which the group-mass is passed, in the hope that the sound and the unsound may be separated. But so few physicians must examine within the allotted time so many candidate-soldiers that time is not available in which to make the examination of the individual as thorough as it might be made. The psychiatrists at the induction boards certainly lack the time in which to do their difficult work well. The psychiatric study of no individual should be made in so brief a period as a few seconds or a few minutes.

Because of such hurried psychiatric work at the induction boards many recruits must slip through into the service whose personal histories alone would deny them admission.

But once in the Army, even five minutes after he has been inducted, the individual is a unit of the military machine; all of him, good and bad; and the United States Government should be responsible for him—for his body and for his mind. There is neither sense nor justice in attributing a mental upset that occurs in the recruit in the seventh month after his induction to service causes; and the same condition should it occur in the fifth month, to non-service causes. The Army should be responsible for its catastrophies and casualties—mental as well as physical.

It had been far better and it would be far better still if all young men before final induction into the Army were to be mere probationers, but not actually soldiers, for at least a few weeks. During that time they could be thoroughly examined, mentally and physically, and their personal and their family histories could be obtained and studied. An important constituent even of a fighting man, potential or actual, is his inheritance. That aspect of man is generally ascertainable though scarcely visible.

The United States Government deserves the woes it acquires through medical examinations hurriedly and poorly made; it aggravates the wrong done to the inducted young man and to the government itself by denying responsibility for the mental casualties that occur early in the soldier's service.

INSURANCE MEDICINE

For this issue CHARLES R. HENRY, M.D. Chattanooga, Tenn.

Medical Director, The Provident Life and Accident Insurance Company

THE RELATIONSHIP OF THE EXAMINER TO HIS COMPANY

THE PEOPLE of the United States believe in life insurance, as evidenced by the fact that 65 million of our population own life insurance in some form, totaling 133 billion dollars. We have 7 per cent of the world's population, and we own 70 per cent of the life insurance in the world. Every second person in the United States has a life insurance policy of some description. In times of strain, stress, depression and bereavement the insurance dollars fall like manna from heaven to lift those concerned over the rough breakers of the difficult days that follow. Life insurance is a tremendous stabilizing factor in the economics of our daily life; roughly speaking, the life insurance owned by our 65 mil-

lion Americans is a great reservoir of immediate and potential help to those who have been wise enough to become sheltered by its beneficent arms.

We are prone to think that when life insurance money is paid to the beneficiary, or beneficiaries, of the deceased breadwinner it stops there, that those beneficiaries are the only parties benefited. Those insurance dollars immediately percolate and diffuse into the whole business life of the community—to the grocer, the landlord, the attending physician etc. Incidentally, what a burden is lifted from the shoulders of the community, state and nation in not being called upon to aid the widows and children of the deceased breadwinner who was wise enough and far-seeing enough to make "his calling and election sure" for those dependent upon his daily labor.

The monthly income settlement enables the deceased breadwinner to do that most wonderful thing—"bequeath to his orphaned children their mother's unfettered time."

Since Pearl Harbor, ten months, life insurance companies have been among the largest purchasers of war bonds for a total of nearly two and onehalf billion dollars.

Insurance companies in the United States and Canada pay to the doctors well over 100 million dollars a year for various services rendered. This stupendous sum supplements a doctor's income in a very worthwhile manner. Now the reason I have remarked on these facts is because the medical departments of life insurance companies would like to call to the attention of the medical profession that they are a most important part, and have played a most important part in the building up of this tremendous business.

Life insurance companies count heavily upon the full coöperation of its medical examiners in the selection of their risks and, as the examiners are paid directly by the companies, they are responsible first to their respective companies for a full report on the applicant.

Coöperation is spelled with two letters—WE. Membership in any organization makes an essential part of the whole. Each member of a society has his individual part to play. If he is the right sort of individual, he is going to realize that the degree of the success of the society may depend on how well he has taken care of his minor part.

Coming together is beginning: Keeping together is progress: Working together is success.

Probably the most important figure in the underwriting or selection of an applicant for life insurance is the agent himself, who initiates the thought and desire in the mind of the prospective applicant, the altruistic idea of making some provision for those for whom he is morally and materially responsible when he has "shuffled off this mortal coil." We presuppose that the right type of agent will have made the necessary inquiries and investigations regarding the needs of the prospective applicant and his record of conduct and reputation in the community, his general physical history, reputation for paying his bills, etc.

Then we would say the second most important selector would be the physician who is called upon to examine the applicant. To begin with, most of the examiners for life insurance companies are selected and appointed as examiners on account of their professional ability and character.

It is a rather expensive matter to appoint an examiner. Just because a doctor is a graduate of some medical college, does not necessarily mean that he will be appointed an examiner for a life insurance company. He is only appointed after a very detailed investigation of his professional ability and his general standing in the community, and this takes time as well as money. Now when a physician accepts the appointment, he accepts weighty responsibilities. The company expects him to not only investigate as fully as possible the physical history of an applicant, but also to give a full pen picture of the present physical findings: and human nature being what it is, it often requires a doctor of granite-like character to set forth all the information which he unearths, without fear or favor. And I would like to say that as a whole, I know of no group of men or profession upon whom you can count with more certainty than those of the medical profession.

So now we come to the examiner alone with the applicant. In many instances the doctor is examining an applicant who is presumably in good condition and who wants a life insurance contract, in contradistinction to the patient who appears befor the doctor looking for physical help, alleviation of his pain, etc. In the case of the latter, the doctor can usually count on full coöperation from his patient regarding his past physical ailments, even to the state of verbosity and great enlargement on his past pains and aches. But in the case of the former, it sometimes takes the sagacity of Sherlock Holmes to prize pertinent information out of the applicant.

The personal history of the applicant for life insurance is of great importance. It is so easy for the applicant to minimize his past pains and aches and indispositions.

Disease of the heart, arteries and kidneys is particularly important from the life insurance point of view because it is responsible for about 50 per cent of our claims and because it frequently strikes down individuals carrying large amounts of insurance who are yet in the prime of life.

In those cases of applicants over forty years of age, it is important that the examiner inquire closely as to whether or not the applicant has had any tightness under the sternum, any unusual shortness of breath on exertion that formerly did not occur; any history of sudden attacks of night dyspnea, coming on without apparent cause or following some slight exertion; any history of pain under the sternum when walking in the face of a wind; any attacks of "indigestion"—and if such a history is unearthed, it should immediately place the examiner on his guard that he may be dealing with a beginning coronary disease, and, of course, should apprize his company of these suggestive signs and symptoms and physical history.

There are several millions of potential insurance buyers at the present time, and among these potential buyers there are many thousands who have coronary artery diseases, which are known to them, or they are entirely ignorant of the existence of this trouble, and many of these will be approved and accepted for life insurance, some for small amounts and some for tremendous amounts, and many of them will become early death claims. Some of these claims will occur some six months after approval, or less time, and some within the first year of acceptance by the company.

This problem of coronary artery disease is one of the most serious faced by the selection departments of life insurance companies, and probably will never be wholly solved. There will always be a certain percentage of these cases which will slip through and obtain life insurance; but the hope of the insurance companies is that as time goes on, and as applicants become more honest in divulging their symptoms, and as the examiner becomes more accurately attuned to these symptoms, and as the electrocardiogram and x-rays are used more frequently, and the interpretation of these examinations are more accurately made, the insurance companies may expect to show a lower mortality from this trouble.

Except for coronary diseases and angina pectoris, it is rare that a grievous malady of the heart is so elusive as to be missed by the careful physician. Shakespeare in *Macbeth* says, "If you can look into the seeds of time and say which will grow and which will not, speak then to me." Paraphrasing this Shakespearean quotation, I might say that if the examiners for life insurance companies could look into the coronary tree, and ascertain the occult changes therein, many early death claims could be avoided.

AN ACUTE OR CHRONIC LARYNGITIS may be instantly relieved by the intralaryngeal injection of Chevalier Jackson's prescription: Mono-P-Chlorophenol 2 grains, Camphor 1 1/3 grains, Liquid Petrolatum 2 oz. Sig: As a nasal spray T.I.D. The greatest remedy for an acute laryngitis is the complete rest obtained by absolute silence—M. F. Jones, New York.

TUBERCULOSIS

J. DONNELLY, M. D., Editor, Charlotte, N. C.

BOECK'S SARCOID

BOECK'S SARCOID is an etiologically obscure disease, which, during the last few years, has awakened considerable interest among chest men. The first report of the condition was made by Hutchinson in 1875, since which time valuable contributions to the knowledge of the disease have been made by Boeck, Longcope, Besnier, Rabinowitz, Pinner and Hannesen. The condition now has been rather widely recognized as an entity, although the etiology is still unknown. According to one school of opinion, the disease is classed as a benign and unusual form of tuberculosis, but no proof that the disease is caused by any form of the tubercle bacillus has yet been brought forth.

A recent article in Diseases of the Chest by Rotenberg and Guggenheim of Denver states that the opinion that sarcoid is a benign form of tuberculosis is based on some histologic resemblances, the infrequent recovery of tubercle bacilli, and a few reported instances of the termination of the condition in caseating tuberculosis. The authors state that Schaumann reported a case in which resolution of the sarcoid lesions occurred on the development of a frank tuberculosis, but that, in spite of the evidence of these few reported cases. in the vast majority of instances no tubercle can be found by any method, and the tuberculin reaction is always negative. Also, the authors state that in two reported sarcoid cases large doses of B. C. G. failed to induce tuberculin reactivity, which supports the theory that sarcoid is an atypical tuberculosis and that its characteristics are due to lack of tuberculin allergy. The authors venture the opinion that sarcoid may be caused by some still unidentified virus or infectious agent, but that none of the theories in regard to the disease has as yet been established.

The typical lesions consist of miliary nodules of epitheloid cells, and compact clusters of such nodules are present regardless of what type of tissue is involved. There is no surrounding inflammatory zone, and caseation or necrosis does not occur. Lymph nodes, skin, lungs and bones are most often involved, but the disease may involve any organ, or type of tissue. The authors say that sarcoid simulates a chronic infectious granuloma, but the principal characteristic of the disease is to pursue a very slow chronic course, with periods of remis-

sion and relapse. The onset is insidious, usually before the age of thirty, and there is no special sex or race incidence.

Constitutional disturbances are in most instances few, even when the disease is extensive, and the clinical picture may vary considerably, because of the different areas of the body affected. The most common initial findings are enlarged superficial lymph nodes and skin lesions, but extensive disease may be found without either of these indications. Cough and loss of weight are frequent; fever is unusual. The white blood cells are usually low or normal; there may be eosinophilia, monocytosis and an increased sedimentation rate. In sarcoid symptoms are not prominent when the lesions are so located as not to cause pressure effects. When the lesions are located in the eye, the mediastinum, the heart, or the central nervous system, however, symptoms may be caused by pressure effects. In autopsies lesions of this disease have been reported in every organ and tissue of the body.

The authors state that lymph node involvement occurs most commonly in the preauricular, post-auricular, submaxillary and submental nodes, and the enlargement may vary considerably in degree. The nodes feel firm and rubbery, and differentiation from Hodgkin's disease is often impossible. Sarcoid of the mediastinal and peribronchial lymph nodes is frequent; of the mucous membranes of the nose, nasopharynx, tonsils and conjunctivae not uncommon. Enlargement of the spleen and liver has been frequently observed.

In cases with lesions in the lungs the disease cannot be diagnosed by symptoms or physical signs, as these are usually absent. The x-ray film may closely resemble films in tuberculosis and Hodgkin's disease, or other conditions which cause extensive pulmonary fibrosis. Some films of this disease simulate miliary tuberculosis, while in others large dense shadows are found in the hilar regions, with radiations extending to the bases, along the medial aspects of the lower lobes. Also, dense shadows due to lymph node enlargement are sometimes found in the superior mediastinum. Pulmonary sarcoid lesions may resolve or heal by fibrosis. The time required for resolution is given as about 22 months, and the healing by fibrosis in extensive lesions may overload the right heart and cause heart failure. Recurrence of pulmonary lesions which had apparently healed is rare. The authors state that an x-ray film of any case is not a reliable guide in prognosis. Bone lesions in this disease are almost invariably found only in the hands and feet; the periosteum and joints are not effected. The x-ray film shows areas of rarefaction scattered through the medulla of the phalanges, and enlargement or painless mutilation of the fingers may be the end result.

No effectual treatment has been developed. The arsenicals, tuberculin, x-rays and radium have been tried without any effect. Longcope claims that the ultraviolet light is beneficial in skin lesions and superficial lymph node involvement. The authors have used large doses of tuberculin intracutaneously twice weekly for a period of eight weeks without any appreciable effect on the symptoms or the appearance of the chest films.

The prognosis, except when the disease invades such vital organs as the kidneys or liver, is good. Involvement of the brain or the myocardium may lead to a fatal outcome. Due to the involvement of various organs, and the production thereby of various clinical syndromes, the disease is difficult to diagnose.

SURGERY

GEO. H. BUNCH, M. D., Editor, Columbia, S. C.

PRIMARY VS SECONDARY CLOSURE OF THE WOUND AFTER PILONIDAL OPERATION

A PILONIDAL SINUS has the unique distinction of always having its primary opening somewhere along the posterior median line over the cecum or coccyx. It results from a developmental error which is never corrected spontaneously. It remains quiescent under the skin until adolescence or early adult life, then, when activated by infection reaching it by way of the skin, it manifests itself as a discharging sinus. When drainage is inadequate pus under tension following lines of least resistance escapes from the primary longitudinal tract to honeycomb the tissues and to form secondary openings upon the skin of the buttocks. The sinus, which may or may nat contain hair, is always essentially a skin lesion and does not penetrate the underlying fascia. Communication with the bowel occurs very rarely and then, in our opinion, only by way of a complicating fistula in ano which develops independently from infection through a break in the rectal mucosa.

A pilonidal sinus can be cured only by total excision. If methylene blue solution is injected into the outlet to outline the tract it should be done the night before operation so that there may be sufficient time for the solution to reach every ramification. If any part of the tract is overlooked and not removed the sinus will surely recur.

The question of primary closure of the wound after excision or of waiting for its healing by the much slower but surer process of granulation is of importance to patient and to surgeon. The comparatively high incidence of the disease in young men and its relationship to eligibility for military service is of especial importance now that every available young man is being inducted into the Army or Navy. Many operations for the radical cure of pilonidal sinus are being done in civilian hospitals to prepare men for service and many more are being done in military hospitals on inductees. The controversial question of closure has important bearing on the man-power problem, although Dunphy aptly says more important than the method of treatment selected is the precision with which it is executed.

If the pilonidal patient presents himself with an acute inflammation or abscess simple incision for drainage with local application of hot compresses should be the treatment until the inflammation has subsided. Not until this has been accomplished should excision be done.

Lest infection be spread, local infiltration anesthesia should not be used. Good operating exposure is obtained by keeping the buttocks widely separated, each being pulled to its respective side by a strip of adhesive the other end of which is attached to the operating table below.

If primary closure is done no catgut may be used in the wound. There must be meticulous hemostasis. Ligatures should be of fine silk, cotton or linen. After being undermined, the skin margins should be accurately approximated by sutures, each of which, after passing through the skin on one side, takes a bite in the fascia before passing through the skin on the opposite side. After they have all been placed, such sutures, when tightened, pull the skin margins to the fascia and approximate them along the bottom of the wound. This obliterates dead space and prevents the accumulation of serum. Light dusting of the wound with a sulfa powder before closure tends to prevent infection and to promote primary healing. Dunphy has had 6.9 per cent recurrence after primary closure in a series of 43 cases as compared to 4.3 per cent recurrence in 23 cases after simple excision and open packing of the wound.

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STATUS ANGINOSUS DUE TO PROFOUND ANEMIA (S. S. Bernstein & Leon Ginzburg, New York City, in Il. Mt. Sinai Hosp., Sept.-Oct.)

Profound depression of circulating hemoglobin frequently induces dyspnea and palpitation, murmurs and signs of cardiac enlargement, chiefly due to dilatation. Frequent P wave changes occur and occasional S-T segment depressions often proportionate to the degree of anemia, and return to normal with improvement in the blood. Severe anemia adds a burden to a diseased heart. Anemia may produce cardiac pain. Angina pectoris of increasing severity appeared in a 62year-old man suffering with profound anemia due to two independent gastrointestinal neoplasms. The cardiac pain was promptly relieved following transfusions and never recurred in spite of two operative procedures and the resumption of full activity.

Angina pectoris in profound anemia may be superimposed on coronary artery disease with consequent limitation in vascular adjustment to the anoxemia induced by the diminished oxygen-carrying capacity of the blood.

GYNECOLOGY

DIAGNOSIS OF CANCER OF THE CERVIX

THE IMPORTANCE of exact diagnosis is as significant to the woman who has a suspected cancer of the cervix as to the woman who has cancer of the cervix. The development of the cancer phobe, and the problems of the prematurely castrated woman are sequelae for which responsibility must be assumed.¹

In their zeal to prevent the occurrence of cancer, surgeons have performed radical operations for nabothian cysts and papillary or granular erosions. Radiologists have had the same conditions referred to them for treatment. Both groups have claimed cures because the pathology did not extend beyond the superficial tissue of the cervix. In the face of inadequate material for examination pathologists have done the only thing possible, diagnosed cancer when in doubt.

We have studied the biopsy material of a gynecologist of national renown who reported his results on irradiation treatment of cancer of the cervix. Cures were reported in some patients who never had cancer, according to the microscopic section; in some other cases the diagnosis was based upon inadequate biopsy material. Conservative figures from these sources of material show that radical treatment has been employed five times for benign conditions to one of actual cancer of the cervix. The operator should know enough surgical pathology to enable him to find the suspicious area and to cut out enough so that the pathologist may obtain a slide sufficient to cover the entire suspected area.

Radical operations for benign lesions account partially for "the castrated women we have always with us." Therein lies the urgent need for a review of the gross and microscopic features of benign and malignant cervical pathology.

A localized circumscribed lesion on one cervical lip is more significant than one surrounding the entire external os. An irregular and undermined edge between normal and abnormal tissue suggests cancer, if the dividing line between the columnar and squamous epithelium is clear-cut it strongly

^{1.} Irene A. Koeneke, Halstead, Kan., in Med. Woman's Jl.,

suggests a benign lesion. To the ungloved finger, the raised edge of an epithelioma feels *hard* and is as pathognomonic as the microscopic slide. An erosion feels *soft* and nabothian cysts *firm* but not hard

When there is doubt amputation rather than biopsies of suspicious cervices should be made. In very early cases this will cure the patient. A lesion may be microscopically malignant but clinically benign. Generally when the slide leaves one in doubt one may safely include the lesion in the benign group.

The aids in diagnosis offered by the colposcope and Shiller tests are time-consuming and require expert interpretation. In early cases they are never certain and thus invite error. When they offer positive information, the ulcerative changes have already begun and diagnosis is possible by inspection and palpation.

The most common benign cervical condition is erosion, a displaced line of junction between squamous epithelium of the portio vaginalis at the external os from the columnar epithelium of the cervical canal. The simplest type of erosion appears as an intense redness sharply demarcated from the pale red appearance of the normal color of the portio, does not project above the level of the squamous epithelium and possesses a smooth or dull velvety quality.

Continued stimulation may produce increased activity on the part of the cervical glands with the development of glands in glands and the intense redness then projects above the level of the squamous epithelium. These conditions, subjected to trauma and low-grade infection, may develop granulation tissue over the surface. When this is wiped with a cotton pledget slight punctate bleeding points appear as is the case with any granulation tissue but it is never comparable to the bleeding which follows even gentle manipulation of malignant lesions. The microscopic diagnosis depends on a slide which includes the base. All of these conditions feel soft to the palpating finger.

In the Hertzler Clinic pelvic examination are a part of every examination on married women and are almost routine on unmarried from the time of puberty.

The histories uniformly relate vaginal bleeding for months or years, then pain for two days to one or two weeks.

Whenever an erosion has developed, there is an attempt at repair which may result in complete or incomplete healing. Remove the cause of the increased mucous secretion and an uncomplicated simple erosion may heal completely.

Leukoplasias wherever found are considered precancerous lesions and regarded as such in the cervix. Cauterization cures them. In an ulcer there is absence of epithelium and the base may be covered with granular tissue. They occur from pressure necrosis due to a pessary or as a decubital ulcer on a prolapsus.

Smaller carcinomas 2.5 to 6 cm, arise from the margin of the external os. Their circumscribed location with irregular undermined edges, elevated or depressed bases with a hard sensation on palpation immediately arrest attention. Those arising from within the cervical canal leaving the cervix unaffected, may be overlooked on speculum examination, unless the portio vaginalis is involved secondarily. So in the case of irregular vaginal bleeding when no cause may be seen or palpated, it is necessary to curet both uterus and cervix, and if still in doubt the cervix should be split for visual examination.

A study of microscopic slides is a confirmatory rather than a diagnostic procedure. In no case was the malignant nature of the lesion first discovered in the laboratory.

If persistent and conscientious study is applied to the appearance and palpation of all cervical lesions and these sensations are correlated with the microscopic appearance of the same cervical lesions, patients will be subjected less and less to radical procedures for a doubtful diagnosis. The important thing is to make an exact diagnosis so that those patients with carcinoma of the cervix may be given all the varieties of treatment at our disposal to save their lives; on the other hand those with benign lesions will be treated conservatively that they may live without fear of cancer, or without necessity for regular trips to the endocrinologist.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

THE TREATMENT OF CONGESTIVE HEART FAILURE

THE COMMONEST signs of left heart failure are breathlessness and rapid heart action on slight exertion.¹ If the heart is not enlarged, these symptoms are probably due to pulmonary disease or asthma. The dyspnea may be constant or paroxysmal. Paroxysmal dyspnea is a more serious sign in patients with coronary heart disease than in those with mitral stenosis. Sighing respiration is a nervous and not a cardiac symptom. Cheynestokes respiration is usually a late manifestation, which is a serious sign of circulatory failure if it occurs while the patient is awake.

Cyanosis may be a sign of serious left heart failure, though it is more often of pulmonary

^{1.} N. S. Davis, Chicago, in Clin. Med., Nov.

origin. It generally develops in patients with left heart failure, who also have emphysema or some other lung pathosis. Moist rales, especially in the bases of the lungs, are usually indicative of left heart failure when they are bilateral.

Among the early signs of right heart failure are gaseous distention of the abdomen, engorgement of the neck veins, and enlargement of the liver. Later there is engorgement of veins of the peripheral circulation, with elevation of venous pressure and dependent bilateral edema and when severe, hydroperitoneum.

Most important are rest and the avoidance of any effort that causes or aggravates the symptoms.

Diet should be high in vitamins and of a caloric value that will cause loss of two pounds a week—actual weight loss not of edema fluid. Adequate minerals and proteins to maintain nitrogenous equilibrium.

Limitations of fluid intake is distressing to the patients and of little value in the elimination of edema fluids. They get along just as well if permitted to drink as much as they want. Tea and coffee are diuretic and so should be permitted, unless they cause restlessness or sleeplessness.

Drugs of the digitalis group are excellent diuretics. Oral administration is the method of choice; subcutaneously or intravenously only in emergencies. The standardized powdered leaf of digitalis, in 0.09 Gm. doses three times on the first day, twice on the second, and thereafter once a day six days a week produces sufficiently rapid digitalization.

The xanthine diuretics have been found of greatest value in the treatment of congestive heart failure in coronary heart disease and in other types in which there was a normal rhythm. These drugs increase coronary flow and myocardial efficiency and increase glomerular filtration and so cause diuresis. Theophyllin with ethylinediamine by mouth or intravenously, 0.18 Gm. three or four times daily, preferably in enteric-coated tablets.

The mercurial diuretics are of value, but must be used with great care because of their great toxicity, and only when the other methods outlined have failed to produce the desired results. They are hydroscopic drugs, which attract the fluid from the tissues and prevent their resorption by the renal tubules. They do not increase cardiac efficiency.

Withdrawal of fluid from the chest and abdominal cavities by paracentesis often so relieves the circulation that it causes a dramatic improvement. Venesection may have a similar effect in cases of pulmonary congestion. Drainage of edema fluid by incisions in the legs is rarely necessary, but some-

times gives great relief when the diuretic drugs are not effective.

The barbiturates are the most popular hypnotics. The past year or two many of the leading cardiologists have been advocating hydrated chloral as the hypnotic of choice. The bromides are also of value.

One other remedy of great value, especially in acute cardiac infarction, is oxygen, given by nasal catheter. Despite the discomfort inherent in this method of administration, it gives more satisfactory results than when administered with a tent or a face mask. It is often life-saving in such cases.

OBSTETRICS

CONTINUOUS CAUDAL ANESTHESIA IN OBSTETRICS

Continuous caudal anesthesia provides pain relief for the woman in labor and during delivery. In a small series of 33 patients¹ all of the pain and discomfort of active labor was removed within five minutes after administration of the anesthetic. In every case there was immediate and complete relaxation of the cervix and the pelvic floor, which expedited the progress of labor without interfering with uterine contractions.

Since most of these patients were primiparae, episiotomy and outlet forceps were used in 23 cases. These patients were entirely free from pain during these procedures; repair of the episiotomy produces no pain.

After the administration of the anesthetic, the parturients are mentally and physically at ease, and are able to bring to bear all of the voluntary expulsive forces to coöperate. The cyanosis, nausea, vomiting, and anoxemia so often seen with other forms of anesthesia are uniformly absent.

With the patient in the knee-chest position or on her side, the tip of the coccyx is palpated with the middle finger, and the thumb is used to find the inverted V-shaped notch of the sacral hiatus, one and a half to two inches cephalad from the inferior caudal tip. The middle finger is then held in this notch as a guide, and a skin wheal is raised below this point with the local anesthetic solution.

A special caudal melleable needle is then inserted through the skin wheal and through the sacral hiatus into the sacral canal just until the needle comes to rest on the anterior bony wall of the canal. The needle should be inserted within the canal for five to seven cm.

The hub of the needle is then securely attached to the rigid rubber tubing of the Lemmon continu-

^{1.} W. B. Edwards & R. A. Hingson, Staten Island, N. Y., in Amer. Jl. of Surgery, Sept.

ous spinal apparatus by means of a Luer lock con-

An initial dose of 30 c.c. of 1.5 per cent metycaine solution in physiologic saline is injected into the sacral canal at an even speed in one minute. For this procedure we use a continuous-flow 5 c.c. syringe with a rubber tube inlet from a covered sterile graduated flask containing the anesthetic solution.

The hub of the caudal needle may be secured in the median raphe just caudal to the sacral hiatus by means of a small strip of adhesive tape which does not interfere with the antiseptic preparation of the patient.

With the anesthetist carefully transposing the connected tubes and syringe to a small Mayo stand just beside the delivery table, the patient is simultaneously permitted to turn on her back.

The anesthesia can be continued indefinitely by serial injections of the anesthetic solution at intervals in varying amounts. Most of our patients are comfortable if 20 c.c. of additional anesthetic solution is injected every 30-40 minutes.

We used this form of anesthesia for a maximum of 13 hours in one case, and 12 hours in another, for $7\frac{1}{2}$ hours in another case, and for an average of $4\frac{3}{4}$ hours in all cases. In none of these cases were uterine contractions retarded.

There were no postoperative complications in any way related to the anesthetic and no unusual systemic reactions on the delivery table.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

EVALUATION OF DRUGS USED IN THE TREATMENT OF CARDIOVASCULAR DISEASES

AN EXCELLENT positive article¹ is given in essence.

The chief use of digitalis is in the treatment of congestive heart failure; sometimes to control the rapid ventricular rate of auricular fibrillation when heart failure is not present, and to reduce the number of ventricular premature contractions when they are bothersome.

Mercurial diuretics are essential drugs in the treatment of congestive heart failure not responding to digitalis; dyspnea alone in the absence of edema is relieved. The presence of theophylline in molar equivalents to that of the mercurial salt prevents necrosis at the site of injection and results in more rapid and complete absorption with a resulting greater diuretic effect.

The results with salyrgan-theophylline tablets by mouth to hospital patients with large amounts of edema are very promising. Only in an occasional ambulatory patient is it desirable to use the tablets orally. The less retained fluid there is, the higher is the incidence of gastrointestinal irritation. The suppositories are tolerated much better. The presence of increasing albumin, casts, or red blood cells in the urine is a danger signal. For intravenous injections, never use more than 2 c.c.; draw up blood into the syringe before injection and then take plenty of time to inject. Mercurial diuretics work more effectively if diuretic salts are given at the same time.

Ammonium chloride in enteric-coated capsules is the most convenient form and the one best tolerated by the patient.

Every pain in the chest is not angina pectoris. The anxiety factor is prominent, and psychotherapy is necessary. Supportive treatment is often nore important than specific therapy. This includes the use of sedatives and the relief of flatulence by some member of the atropine group. Of the nitrites, nitroglycerine is still much the best. The nitrites relax all smooth muscle (for instance in the bronchi, the biliary tract, and the intestine), if spasm is present. Relief of pain when nitroglycerine is used does not prove the presence of coronary disease. Erythrol tetranitrate and mannitol hexanitrate have limited use because many patients develop side reactions.

Aminophylline by mouth has prolonged the time of the appearance of pain. On the other hand, clinical tests have shown that aminophylline or other xanthines have no superiority over placebos.

ARTERIAL HYPERTENSION

Some fifteen years ago Sir James McKenzie remarked that the only reason why our attempts at reducing high blood pressure did not kill our patients lay in the fact that our attempts failed. Here are striking paragraphs from a first-class article¹ in support of this statement.

Direct attack to lower the pressure has never been successful for long. Attempts of this kind that have been even moderately successful have almost invariably been along the line of depletion. Rest in bed on a low-nutritive diet, repeated therapeutic bleeding, employment of cardio-depressants, low-protein and salt-free diets, persistent saline purgation—all belong in this category. Whatever effect they may exert on the blood pressure proves temporary, and adds nothing to the welfare of the patient.

The latest addition to this form of therapy is the cyanates. I mention them only to condemn them.

^{1.} A. C. DeGraff, New York City, in Bul. N. Y. Acad. of Med., April.

^{1.} A. R. Elliott, Chicago, in Jl. Michigan Med. Soc., June.

The latest development in the treatment of essential hypertension is a frontal attack by the surgeons. Sympathetic nerve supply has been severed. The testimony, in general, is that after surgery the subjective improvement is out of proportion to the fall in blood pressure, especially with respect to headache, vertigo, heart consciousness and precordial distress; and, most extraordinary of all, a marked improvement in retinal-artery changes, hemorrhages and papilledema.

Experience leads most of us to the conviction that hypertension is part of a mechanism for compensating visceral deficiency, and that rude efforts to reverse blood pressure either by drugs or operation are unphysiologic, and disturb some status or equilibrium essential to body well-being. It may still be said that the mostimportant consideration in the management of high blood pressure states is proper regulation of the patient's personal hygiene, somatic and psychic. The gain over excess pressures obtained by this means is pure net gain involving no interference with an adjustment we understand very imperfectly.

IN ESSENTIAL HYPERTENSION the functions of the kidney are not greatly impaired.¹ A simple test is to drink large quantities of fluids. In a normal kidney the overnight specimen should have a specific gravity of 1.025 or more, while the specimen following water intake should be 1.005 or less. The nearer both specimens are to 1.010 the more extensive is the damage to the kidneys. If renal retinitis is recognized, death can be predicted within a period of 18 months to two years, whereas arteriosclerotic retinitis carries no such ominous prognosis.

A temporary reduction can be made with nitrates, but their use should be limited; other drugs will relieve headache, throbbing in head, dizziness. Theominal or a combination of a bromide with potassium iodide are very successful and can be taken for two or three weeks at a time; barbiturates will help to produce sleep.

Reduction of food, quantitative more important than qualitative, especially in an overweight person. No liver, kidney or meat extractives should be used. Tea, coffee, alcohol and tobacco may be taken in moderate quantities. In the acute case rest in bed on a low diet will help.

Investigate fully the patient's mode of life, occupation, hobbies, hours of sleep, time taken for meals; anxieties and worries will increase the blood pressure. Sleep must be adequate, exercise should be very mild and gentle, a period of rest after meals is very essential. Suggest giving up all business activities. Let the patient forget about his blood pressure, so do not use the sphygmamonom-

eter every time you see him. Do not make his life a burden, as too strict dieting or limitation of his activities will do more harm than good.

PROSTIGMIN IN DELAYED MENSTRUATION

ESTROGEN produced a transient elevation in the acetylcholine content of rabbit uteri¹ and the hyperemic effect of estrogens on the uteri due to the direct action of estrin substances but more to the increase in the acetylcholine content of the uterine tissues.

In selected cases of delayed menstruation since acetylcholine was too toxic, recourse was had to prostigmin methylsulfate because of its ability to mobilize the acetylcholine reserves of the body by inhibiting the hydrolytic action of the acetylcholine esterase. A total of 48 cases of delayed menstruation were studied: 25 nongravid with no evidences of endocrine or pelvic disorders. All these cases bled consequent to prostigmin therapy. The remaining 23 cases, previously diagnosed as being definitely gravid, did not respond in any way to prostigmin. The authors concluded, therefore, that, barring endocrine dysfunction or local organic changes, prostigmin could be used "as a combined treatment for menstrual delay and a therpeutic test for pregnancy."

All cases received three injections on three consecutive days, of 2 c.c. of the 1:2000 solution of prostigmin methylsulfate.

Prostigmin may be used with impunity in early pregnancy. It has proven to be effective in the treatment of delayed menstruation uncomplicated by pelvic pathology or marked endocrine dysfunction; no untoward reactions attending its use were observed.

1. Dominick Parrella, Brooklyn, in Northwest Med., Nov.

PAINFUL SHOULDERS

CODMAN has stated that rupture of the supraspinatus tendon is the most frequent traumatic lesion of the shoulder.¹ Calcified deposits in the supraspinatus tendon can be differentiated from those in the subdeltoid bursa by means of x-rays.

Physical therapeutic measures should play an important role in the management of all types of painful shoulders. In minor injuries or other acutely painful conditions, once the proper diagnosis—of contusion, sprain, strain or other lesion—has been established and appropriate surgical care is given, rest is the most important routine therapeutic measure. A sling which supports the elbow and takes the weight of the arm off the painful shoulder is of great help. An ice bag or ice-cold compress applied to the swollen area immediately

^{1.} G. E. Jacobs, St. Louis, in Miss. Val. Med. Jl., Nov.

^{1.} Richard Kovacs, New York, in Arch. Physical Therapy, 23:341, 1942.

after an injury usually relieves pain. After a day or two mild heat radiation should be employed to give comfort and speed up absorption of blood and lymph. In selected cases the use of an ethyl chloride spray followed by active motion may speed up return of motion. As soon as the acute pain is over and there is no complication demanding further rest for the injured shoulder, gentle massage and gradually increased exercise may be started. The intelligent use of these simple measures tends to reduce swelling, to prevent adhesions and to overgome stiffness.

Subdeltoid bursitis, the most frequent cause of painful shoulder, is characterized by the sudden onset, localized tenderness, limitation of motion due to muscle spasm and the characteristic roentgen picture. Heat is used for the relief of pain and muscle spasm and for the promotion of absorption of the calcareous deposit. During the acute stage, radiant heat (150-200 watts) is often the only measure which the patient can tolerate. Sedatives may be required for the first few days. In the rare instances in which heat aggravates the symptoms, wet ice packs are used.

In chronic bursitis, in which chronic periarthritis brings about painful adhesions and stiffness, a systemic course of diathermy is advocated in conjunc-

tion with systemic exercises.

In subdeltoid bursitis identical results were obtained in a relatively short time with either x-rays or short wave diathermy.

Rupture of the supraspinatus tendon is usually recognized by the rather violent trauma preceding it and the immediate inability to abduct the arm. It is seen most frequently in laborers. The necessity of suturing must be decided by the surgeon. Physical therapy is applied later as in bursitis.

Arthritic involvement of the shoulder is comparatively infrequent but must always receive diagnostic consideration. Synovitis or acute arthritis occurs after trauma or an acute infection and responds to the measures recommended for acutely painful conditions. Pyogenic infection is a surgical problem. Chronic arthritis, osteoarthritic or atrophic, is usually part of a general arthritic condition in which more than one joint is involved.

DERMATOLOGY

THE ROUTINE TREATMENT OF ACNEFORM ERUPTIONS

THERE ARE THREE underlying causes in practically every case: low blood serum resistance to coccic infection; an abnormal secretion of the se-

baceous glands; and a lowered local resistance to coccic infection.¹

Ascending doses of mixed vaccine, staph. aureus and albus, several varieties of streptococci, B. coli, and three varieties of pneumococcus.

The vaccine must be potent, must be administrede subcutaneously, not intradermally, and not intramuscularly, in increasing doses; the final dose large for the individual case; and it is often necessary to administer this large dosage repeatedly at suitable intervals, thus continuing to stimulate the body resistance until the local focus of infection has been adequately dealt with.

Faulty secretion of the sebaceous glands: Two things are done to overcome: (1) inoculation of anterior-pituitary-like sex hormones from pregnancy urine, various commercial preparations, dosage average to small and usually at weekly intervals; (2) a lotion containing sulfur once or twice a day—lotio alba.

In addition at least morning and night wash the affected area with hot soapy water, rinse away the soap thoroughly with warm water, and then douche the skin with cold water. Mop dry, and apply the sulphur lotion.

Of 25 cases reported in the article, routine treatment produced a cure or marked amelioration of the symptoms in all but one. This patient did not return for sufficient treatment.

GENERAL PRACTICE

WALTER J. LACKEY, M.D. Editor, Fallston, N. C.

DIAGNOSIS OF BRUCELLOSIS

The acute form of erucellosis (undulant or Malta fever) is characterized by fever 102 to 105°, usually persistent for many days, weeks or months and undulating in its intensity. Perspiration is often extremely profuse. The patient may feel as if he has a severe, prolonged case of influenza or dengue fever, or he may be remarkably comfortable and clear headed for the severity of his fever.¹

There is usually a dearth of physical findings, but an enlarged spleen may be expected. Appraisal of therapeutic measures is particularly difficult. In the natural course of the acute disease remissions may be sudden or gradual, early or late, but eventual complete recovery may be expected in most cases.

The diagnostic criteria: (1) a positive blood agglutination test, usually in a titer of 1:80 or higher; (2) a positive blood culture, which requires special methods; (3) a clinical picture and course as generally described above, usually with a leuko-

^{1.} J. F. Griggs, Claremont, Calif., in Northwest Med., Nov.

penia relative to the fever; (4) a history of consumption of raw milk products, handling cattle or their fresh carcasses, or exopsure to Brucella in some other way as in a laboratory.

The chronic form of brucellosis is quite different

Ordinary amounts of brucellar infection are evidently not resented by the body's immunologic mechanisms, perhaps because this infection is only rarely a serious threat to life, by far the more common of the two.

The requirements for diagnosis are a comprehensive understanding of the protean nature of the disease, a thorough study of the history of the patient and of the total combination of all the diagnostic data which can be secured.

Exclusion occupies an important place.

The skin test, properly given, is the most valuable single test. Great care should be taken not to increase the patient's sensitivity to Brucella.

TRANSPORT AND FIRST AID OF ACCIDENT CASES

EXCESSIVE SPEED is rarely necessary¹ in conveying a person from the scene of an accident to the hospital. The trained ambulance driver knows this and will not substitute a screaming siren for safe driving. The few minutes' time gained by wild driving usually benefits the patient not at all; on the contrary, if he is conscious, he will be in a state of nervous collapse when he reaches the hospital.

It is vitally important that an injured person be lifted and carried carefully when being taken from the scene of an accident. In vertebral fractures without cord involvement, irreparable damage is done to the cord by the hyperflexion of the spine. The compounding of closed fractures of the leg bones is another catastrophe.

Sometimes, by the efforts of excited bystanders, the injured one is placed in a private car and driven to a hospital at breakneck speed.

It is incumbent upon our profession that we keep educating the public over the years to the end that eventually the work of caring for accident cases will be left to those who have received special training in it.

Every ambulance should carry a first-aid kit, several simple splints and oxygen. The oxygen can be given by means of a small, compact, inexpensive outfit, which anyone can learn to operate in a few minutes. All members of an ambulance crew should learn how to administer oxygen.

See that bacteria are banished from the wound as soon as possible by the simple procedure of cleansing the wound with soap and water. If necessary, and it usually is necessary, the patient is given some anesthetic. The physician scrubs his hands as for a major poeration and dons sterile gloves and gown and wears a cap and a mask which covers the nose as well as the mouth.

The wound is then gently cleansed by repeated wipings with cotton soaked in a soap solution, followed by physiologic saline irragtions—a tedious process, but almost all foreign material can be removed from the wound in this manner. All traumatized and devitalized tissue should be cut away with a sharp scalpel and all bleeding points ligated. When all this has been done the wound may be closed tightly in most instances, and healing by primary intention is the rule.

Sulfonamide drugs will never be a substitute for careful cleansing of a wound with soap and water.

First-aid treatment also includes a thorough examination of the patient. The entire body should be gone over. All too often our attention is focused upon a very obvious injury such as a laceration or a fracture, while some serious internal injury goes unnoticed.

EMERGENCY TREATMENT OF FRACTURES

A PATIENT who is in severe shock is unconscious, or has a flail point of fracture can be deprived of his chance of saving an extremity or even his life by bundling him into an automobile. If he is in shock, has a head injury or suffers pain in the neck and spine with elevation of the head or shoulders he should be transported by stretcher in the reclining position. In the presence of a fracture and shock he should be covered well and kept warm while the extremity is splinted before transportation. During the last World War statistics of the British Army show that mortality in compound fractures of the femur was reduced from 50 per cent to 15 per cent by the application of Thomas splints by lay stretcher bearers.

Always carry in car arm and leg traction splints, sheet wadding, a few wooden splints, sterile dressings, bandages etc.

Use of prophylactic antitetanus serum should accompany all compound fractures. When tetanus has once developed, treatment is little or no better than before the advent of serum. In compound fractures a combined gas bacillus serum consisting of 3000 units clostridium Welchii, 1500 units clostridium septique and 1000 units clostridium oedematicus.

In the treatment of all fractures (1) the attending surgeon should guard himself against malpractice by adequate records and standardized treatment, (2) first aid be given at the place of injury, (3) fractures be properly supported and splinted

^{1.} J. M. King, Milwaukee, in Wisc. Med. Jl., Aug.

^{1.} S .R. Maxeiner, Minneapolis, in Jl.-Lancet, Nov.

for transportation and (4) compound injuries be treated in the most approved manner to avoid wound infection.

FRACTURES OF THE OS CALCIS

THE COMMON ERRORS in the treatment of heel fractures: 1

- Omission of lateral, oblique, and anterioposterior roentgenograms of the foot showing the anterior portion of the os calcis.
- 2. Omission of roentgenograms of both heels.
- Reduction before the disappearance of swelling, which might take a week to 10 days.
- Improper placing of pins or wires in the middle of the tuberosity instead of in the posterior upper portion in patients requiring skeletal fixation.
- 5. Omission of dorsiflexion of the foot before inserting wire or pin for skeletal traction.
- Omission of immediate removal of the compression clamp after reduction of widening.
- 7. Removal of fixation before good union has occurred (10 to 14 weeks).
- 8. Failure to keep patients with skeletal fixation under constant supervision and to remove the fixation if inflammation should occur.
- Institution of massage and passive motion before it is certain there is union.
- Omission of application of compression bandage or boot after cast is removed.
- Omission of support to the arch on weight bearing.
- 12. Omission of instruction of the patient in tiptoe exercises to strengthen the calf muscles.
- 13. Failure to use due precaution in removal of the skeletal fixation; probing or indiscriminate curettage of a sinus might lead to infection.
- 14. Omission of a subastragalar arthrodesis in those patients in whom there is a persistent complaint of pain on weight bearing.
 - 1. J. O. Dieterle, Milwaukee, in Wisc. Med. Jl., Aug.

PEDIATRICS

EDWIN L. KENDIG, JR., M.D., Editor, Richmond, Va.

COMMON AND UNCOMMON MANIFESTA-TIONS OF THE RHEUMATIC STATE IN CHILDHOOD

CHILDREN are particularly susceptible to rheumatic fever, over 70 per cent of cases occurring between the ages of 4 and 30 years. It is extremely rare in children under four years of age. As a rule, rheumatic fever begins between the ages of seven

and 10. After the 20th year distinctly unusual. Repeated chilling appears to influence.

Proof that this disease is due to a definite organism has not been forthcoming. The theory of virus infection is as good as any other. The sulfamiracle drugs have not affected the course of the disease.

"Growing pains" are not uncommon in healthy children, but should always indicate to the physician the necessity for careful examination and observation over a period of time. Intermittent attacks of abdominal discomfort, with low temperature, with a white count consistent with a subacute appendicitis, are not infrequently signs of rheumatic fever in younger children. Frequent nosebleed in children without adequate cause being discovered by careful examination with nasal speculum is suggestive of chorea.

A child demonstrating this symptom complex should be considered as having rheumatic fever and so treated. Mild types of chorea may be overlooked and may be followed by a severe rheumatic heart disease. Persistent tachycardia, with no cause discovered in examination, and with bouts of low grade fever should be considered rheumatic fever if all other examinations are normal. Rheumatic infection is prone to pleurisy, pericarditis, peritonitis, fascitis and fibrositis and should suggest careful and repeated examinations of the heart.

Help in establishing a diagnosis is a sedimentation rate moderately rapid during one of the exacerbations but fairly normal between times, usually anemia, white count may be slightly high, ranging from 9,000 to 11,000, relative lymphocytosis. A P-R interval of .22 or more in children makes much more probable a mild rheumatic carditis. A systolic murmur, although slight, should be considered for some time in the future.

The younger the subject, the more the heart suffers and the less the joints. Rheumatic nodules, as long as they are found or persist, the patient should be treated as still having rheumatic fever. Subcutaneously loosely attached to tendon sheaths, periosteum, joint capsules, more or less symmetrically. Most common skin lesions erythema multiforme.

A roughness of mitral first sound or a creaking sound suspicious of mitral involvement. The early murmur is usually a soft blowing heard best at the apex, may be present for months before careful timing will establish it as presystolic. In the aortic area, the first murmur heard may be a slight diastolic blow or mildly systolic, followed by a diastolic. Precardial effusion, extreme dyspnea and cyanosis. Necrosis cause of the myocardial weakness and the tendency to acute dilatation.

^{1.} W. M. Ketcham, Kansas City, Mo., in Il. Mo. Med. Assn., Dec.

CLINICAL CONSIDERATIONS OF PERICARDITIS

The appearance of pericarditis in cases of heart disease may indicate an extension of a recognizable fundamental lesion or may reveal the presence of a cardiac lesion which is obscure.¹ Pericarditis may develop as an extension of pleural or pulmonary disease without any underlying heart lesion, rarely a primary condition. The first inkling of the presence of pericarditis may arise at necropsy.

Acute rheumatic pericarditis (a fibrinous process) is one of the commonest forms, 10 days or two weeks after the onset of rheumatic fever, accentuation of symptoms already present. Some patients complain of pain about the region of the sternum or epigastrium, often sharp and intermittent. Pericarditis may cause pain simulating the pain of myocardial infarction, may be followed by effusion into the sac, rapidly and not infrequently results in acute cardiac compression.

Another common form of acute pericarditis is that with the terminal stage of chronic glomerulo-nephritis. It appears insidiously, frequently is observed with the appearance of "uremic frost." More often no organisms can be found in the pericardium at autopsy, it is a terminal complication.

Following myocardial infarction pericarditis occurs only if the infarct extends to the epicardium, final result is thickening of the pericardial layers and fusion thus forming a thick overlying protection for the thin ventricular scar, not attended by an increase in symptoms.

Pneumococcus pneumonia often has been complicated by pericarditis, particularly when empyema has developed. Pneumococcus infection of the pericardial cavity is purulent and dangerous.

The possibility of the development of pericarditis should be borne in mind in any case of lobar pneumonia.

Occasionally, an acute pericarditis develops in the wake of pneumonias of streptococcal or influenzal origin.

Tuberculous pericarditis may follow pulmonary, pleural or mediastinal tuberculosis. The fluid is sterile to culture and ultimate diagnosis will depend upon guinea-pig inoculation. The onset is often acute, the lesion is chronic.

With acute fibrinous pericarditis, a friction rub is the most valuable physical sign, generally heard best along the left sternal border. In the presence of murmurs, the recognition of pericardial friction rubs is often difficult.

Another sign is a small area of dullness, bronchial breathing and egophony below the angle of the left scapula.

Pericardial effusion may be massive and quick

to form. Moderate effusion occurs as a part of generalized anasarca.

Moderate or extreme dyspnea, laryngeal paralysis as the result of pressure on the recurrent laryngeal.

The fluid must be in excess of 300 c.c. to be detected. Dullness may be globular when the patient is supine, pyriform when erect. The early diagnosis is often facilitated by fluoroscopy.

Rheumatic pericarditis of the fibrinous type requires no treatment beyond that given for acute rheumatic fever.

No treatment for the pericarditis of uremia and myocardial infarction. Following coronary occlusion, the pericarditis is usually transient.

If effusion becomes large, paracentesis to relieve pressure may be necessary. When pericardial empyema is suspected, prompt tapping (or surgical exploration) is indicated to establish the diagnosis. Usually the best site for inserting the needle is in the 5th left intercostal space 2 cm, within the border of cardiac dullness, the needle being directed inward and backward toward the spine. Occasionally when fluid cannot be obtained by anterior exploration, puncture of the 7th and 8th interspace in the left midscapular line is effective. Pericardial fluid, however, sometimes is encapsulated and exploratory puncture in several places may be required. Anesthetize the skin and subcutaneous tissues thoroughly so that the patient is less apt to wince. Minimize the chance of accidental cardiac puncture. A medium caliber needle attached to a 50 c.c. syringe is usually adequate, if thick exudate 2 mm. needle. Purulent pericarditis requires surgical drainage as soon as the diagnosis is established, under ideal conditions 50 per cent mortality. Some prefer to work under direct visualization of the pericardium rather than to depend on diagnostic puncture with its attendant risks.

Adhesive pericarditis frequently remains unrecognized during life; in a few cases dyspnea occurs usual signs of chronic heart failure.

When the heart is compressed by a constricting pericardial lesion, venous pressure is elevated, enlarged liver, ascites, distended neck veins and dependent edema, often disproportionately small. The arterial pulse-pressure is small. The heart is generally of normal size, or only slightly enlarged, and there is no evidence of valvular disease. Fluoroscopically, limited excursions of the cardiac walls is noted. A helpful confirmatory sign—one which has received little emphasis—is failure of response to digitalis therapy.

Adhesive pericarditis ordinarily calls for no particular treatment. If cardiac decompensation occurs, the usual treatment of heart failure is carried out. The treatment of choice in constrictive pericarditis is cardiolysis.

^{1.} J. R. Smith. St. Louis, in Jl. Mo. Med. Assn., Dec.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M. D., Editor, Charleston, S. C.

ACUTE MASTOIDITIS IN DIABETES MELLITUS

EVERY SURGEON has long observed that diabetics sometimes make poor surgical recoveries. Druss and Allen in a recent issue of the Archives of Otolaryngology¹ analyzed 49 cases. In 15 years (1927 to 1941) this number of diabetics with acute mascioditis were admitted to the Mount Sinai Hospital. Mastoidectomy was done in 44 cases.

Sex—29 were females, 20 males. In the non-diaebtic population acute mastoiditis is a little more prevalent in the males; however, in the general population diabetes is more frequent among females. Forty-two of the 49 were over 40 years of age. Acute mastoiditis in the non-diabetic is more prevalent in the young. The prevalence of diabetes in later life is reflected in this series.

Organisms—Pneumococcus, Type III, was present in 43, Streptococcus haemolyticus Beta, in 31 per cent of the cases. A review of 1,000 consecutive cases of acute mastoiditis in this same institution showed 9 per cent of the pneumococcus and 85 per cent of streptococcus. However, in the age group past 40 the pneumococcus rose to 39 per cent. 43 in this series.

The elapsed time from the infection of the middle ear until localization was complete and beginning resorption of the intracellular bony structure, i.e., until the opportune time for surgery, was reduced to nine days from the non-diabetic average of 12 to 14 days.

The extent of temporal bone destruction was greater in the diabetic than in the non-diabetic patient.

Postoperative soft tissue infections—erysipelas and other infections of the neck and scalp—were noted in 27 per cent of these cases, causing three deaths, as against an incidence of mild infections of similar soft tissues in 2 per cent of non-diabetic cases. The resistance of the soft tissues to strep-tococcus infection is greatly diminished in diabetics. This general lowered resistance is in spite of constant adequate diabetic treatment.

There is no direct correlation between severity of the diabetes and the incidence of intracranial complications or postoperative complications involving the soft tissues.

Pathology — Except for severity, histologic changes in the temporal bone in the non-diabetic and diabetics with otitis media were the same. It is noteworthy that in three cases extensive destruction throughout the mastoid bone had occurred in

one week from the onset of otitis. There was a large number of intracranial complications. Sclerosis in the arterioles and smaller vessels was observed more frequently than in non-diabetic patients, age being considered. This was also true in the temporal bone of a diabetic with no otitic involvement.

It is very important to establish a diagnosis of acute mastoiditis. Paucity of signs and symptoms make it imperative that a diabetic with otitis media be under constant close observation.

There was a high incidence of intracranial complications—41 per cent.

Postoperative erysipelas and soft-tissue infection was severe and high—24 per cent.

The mortality rate was 26 per cent.

In summary it is suggested that energetic treatment be directed to the diabetes as well as to the otitic infection. Early diagnosis and early treatment is stressed.

It is concluded that there is in the diabetic an impairment of resistance of the temporal bone and adjacent soft tissues.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M. D., Editor, Charlotte. N C

THE AUTOMOBILE BLITZ

It is significant that as a nation we, for the past two decades, have accepted the death-dealing factors of the automobile with callous indifference. At least there has been no concentrated effort on the part of those concerned to effectively limit the dangers of this means of transportation. Rather the attitude has been taken even by persons sane and cautious in the usual affairs of life, who when behind the steering-wheel of the automobile become reckless of their own safety and that of others. It seems that in such a position the majority of us possess a mania for speed born of a hilarious daredeviltry without the ability, judgment and coordination of eye and muscles to warrant such action. It is further significant that because of the lack of these prerequisites in the average individual the majority of persons can never become efficient and safe drivers. To fortify the logic of this statement, it is common knowledge in the Air Corps that the majority of young men of exceptional physical and visual ability who are applicants for that service fail to qualify as pilots because of their psychical reactions, lack of judgment, and of physical and mental coördination. Because of these ineptitudes common in those after thirty the Air Corps does not accept them for training for pilots.

A speed of 50, 60 or 70 miles per hour of a motor vehicle upon the highways of the nation

1. Druss, J. G., and Allen, B., Arch. of Otolaryng., Vol. 36, No. 1, p. 12.

driven by all classes of people from 16 to 65 or 70 years of age, in the majority of instances having had only a modisum of training and experience in driving, and many lacking the physical and mental aptitude for such, the hazards to life and limb of many persons are greatly in excess of those of a capable pilot and his crew in a modern plane at 3 or 4 hundred miles per hour. Speed in the air is an element of safety. On the ground it is the major single cause of our great mortality and casualty list. For years the editor of this Journal in its editorial section has ardently and ably discussed this factor suggesting ways and means which if put into effect would materially limit the holocaust the result of the motor vehicle.

It is a statistical fact that for each year of the past two decades the mortality rate from the automobile has almost equaled the mortality rate of our armed forces for two years in World War I. The annual casualty rate has been greatly in excess of that of the same war. It is of further interest to note that the casualty list, dead, wounded and missing, of our armed forces for the first year of World War II was scarcely in excess of the automobile mortality list for 1941. During the year of the great German blitz on England the loss of life was about equal to that from automobiles in the same country the year before.¹

From these data it may be seen that many of our young men who are in the services today are living who had they remained in the usual pursuits of peace would ere now have been victims of automobile accidents. Those of us who have sons in the armed forces, even in the combat zones, may take heart from this fact. It may in truth be said their element of safety in the services is equal or greater than were they in civil pursuits.

This is no brief for war, but for the recognition of a national condition which is almost as great a menace to life and limb as war. From statistical data it will be found that since high rates of speed on the highways have been outlawed by Federal Act the mortality and casualty rate has materially lessened. To augment this a greater effort is now being made, nationally, to examine the physical and visual qualifications of drivers and applicants for license to drive motor vehicles. These if maintained, especially the control of excessive speed, will be a long step in the right direction.

The oculists throughout the nation are in a position to render a real service in lending their aid and counsel to the authorities relevant to visual requirements for safety on our highways.

The writer suggests a study of the following able articles on this subject by the essayists listed below.

1. L. S. Selling, Detroit, J. A. M. A., p. 261, v. 120, No. 4, 9-26-42.

SELLING, L. S., and CANTY, A.: Studies on the Problem Driver. Scientific Reports from the Psychopathic Clinic of the Recorder's Court. 1:25, 27-28, Nov., 1941.

Visual Standards for Operating Motor Vehicles, Current Comment. J. A. M. A., 111:716, Aug. 20, 1939.

American Assn. of Motor Vehicle Administrators: Minimum Driver License Exa. Standards, Dec., 1939.

HALSEY, M.: Vision and Other Tests for Automobile Drivers. Sight-Saving Review, 3:91-104, June, 1933.

FORBES, T. W., and HOMES, R. S.: Legibility Distances of Highway Destination Signs. Proc. 19th Annual Meeting of the Highway Research Board, Dec., 1939.

LAUER, A. R., and KOTVIS, H. L.: Automotive Manipulation in Relation to Vision. *Jl. Applied Psychol.*, 18:422-431, June, 1934.

DESILVA, H. R., FRISBEE, W. H., JR., and ROBINSON, P.: One-eyed Drivers. Sight-Saving Review, 8:174, Sept., 1938.

MISCELLANY

WHAT EVERY PHYSICIAN SHOULD KNOW ABOUT CROSS-EXAMINATION

IN New York City suits involving personal injuries constitute 70 per cent of the litigation.¹ Since each side will have at least one physician, there are at least as many doctors as lawyers in every such case. The situation is not peculiar to New York; it is reported that it exists throughout the United States. Furthermore, personal injury actions are not the only species of litigation where physicians are required. Doctors testify in goodly numbers in will contests involving insanity, in various criminal trials, such as assault, rape, homicide and the like, and in health, accident and disability insurance cases. Wisdom would appear to dictate that physicians should familiarize themselves with the problems of witnesses.

A famous English barrister once said, "There is never a cause contested, the result of which is not mainly dependent upon the skill with which the advocate conducts the cross-examination." If cross-examination was the decisive factor in litigation in those days, it is doubly true today. Any person who takes the stand will make a better and more convincing witness if he becomes familiar with the methods utilized by cross-examiners.

The direct examiner will ask for nothing except facts favorable to his own side. The direct evaminer does not ask the witness to disclose all that he knows, and the witness does not do so. If any facts unfavorable to the direct examiner's case really exist and these are to be learned, the cross-examiners must ferret them out.

The art and the skill in conducting an actual cross-examination consists in knowing when to question a witness and in knowing what to extract from each witness how to do it.

Before a lawyer commences to question each

^{1.} Myron Sulzberger, Jr., New York Bar, in Il. Med. Assn. Ga., Nov.

witness, he wonders, "Will the cross-examiner develop facts favorable or unfavorable to the cross-examiner's case? Will the answer give the witness a personal victory over the cross-examiner?"

Cross-examination has been aptly described as a "mental duel" between lawyer and witness. This "duel" often results disastrously for the lawyer.

The cross-examiner constantly hunts for the vulnerable spots in the story and the witness—those vital spots that seem most susceptible to a successful attack.

While the direct examination unfolds, and while the cross-examination is in progress, the cross-examiner searches for material to use for attacking the witness.

To discredit a witness or a story may be the mission of the cross-examination.

The technique of questioning witnesses in law courts is based on sound and tested principles of logic, psychology and human nature.

The cross-examiner sometimes adopts a rapidfire method of questioning to prevent a witness from manufacturing a story as the examination proceeds. With a pliable witness, the question may be phrased so as to suggest the desired answer. With a hostile or stubborn witness the question may be so phrased that the desired answer is wholly contradictory to what the witness thinks the cross-examiner wants. The lawyer feels more beaten than the witness.

"Never cross-examine an expert in his own field" is an oft repeated adage. Physicians must anticipate, therefore, that generally, they will be cross-examined concerning non-medical matters.

The witness should listen to each and every question carefully and he should think over the question before hazarding an answer. No extra points are scored for speed. If the witness does not understand a question he should say so and request that it be repeated. If the meaning of the words are not clear, he should ask for enlightenment. It is better to be known as an ignoramus than a liar. If the witness does not know, or remember the answer, he should say so. If he is not sure or certain of the answer, he should reply that he thinks that the correct answer is so and so, but that he is not certain of it.

Each answer should be responsive to the question. If the witness gives an unresponsive answer the jury may believe that he is deliberately attempting to be evasive. Volunteering information not called for may be quite dangerous, and it may serve to give the cross-examiner ammunition to discredit the witness.

A witness should convey the impression that he is honest, fair and trustworthy. This is especially so where the witness is being asked to testify as to facts. Where the witness is called upon to express

an opinion, or to act as an expert, the learning, the qualifications and the experience of the witness then become relevant.

It is during cross-examination that the witness must be especially alert and awake and scrutinize and consider each question before answering.

Courts and juries do not expect experts to know everything, and it is unwise for physicians to attempt to give this impression. No person need feel disgraced if he is compelled to say "I do not know," or "I do not remember."

Physicians should always bring their original records to court, even if the copy is in a more convenient form.

A written record is more eloquent and convincing than a thousand spoken words. The solution for a cross-examination as to records is more careful and thorough records, and a searching scrutiny of these records by doctor and counsel before the doctor takes the stand. There is no excuse for a physician being surprised as to the contents of his own records.

Physicians should anticipate a cross-examination as to hypothetical questions covered during the direct examination.

The expert should see the hypothetical question before he takes the stand. The physician should discuss the hypothetical question with counsel before the trial. He should determine and advise what are the essential and non-essential facts.

If a witness blithely details what no human being can remember, the person will be branded as a liar.

The physician will be confronted with "medical authorities" on cross-examination. Before coming to the court the doctor should read upon on the subject upon which the examination will be had and familiarize himself with name and authors of medical works in the field and know what books are considered authorities. This rehearsal will enable the physician to convincingly disagree with the medical texts where the statements made therein are unfounded and will enable the physician to support his contentions by books or printed authorities, which always influence court and jury.

Lawyers will invariably ask a medical witness how much time he spends in court, how frequently he testified, whether or not he is customarily called for plaintiffs or defendants, the type of cases to which he is most often asked to appear and how often the physician has come to court for counsel in the case. The best defense to this line of inquiry is to know what is coming—and it generally does.

Preparation is the key to success for the medical witness. A lawyer prepares for cross-examination. Why should the physician do less in anticipation of this mental duel? The physician's preparation

should commence with the examination of the patient and with the making of the medical records of the case. Both should be made with an eye toward the trial. Before the trial a study should be made of the subject matter of the pertinent texts and the authorities should be examined. Conferences with the patient and the lawyer before testifying are most desirable. If all these instructions are followed the doctor will step up to the witness stand ready to devour the blood of the cross-examiner.

DILANTIN SODIUM IN BRONCHIAL ASTHMA

Seven cases of intractable asthma in children from 3 to 14 years were selected for treatment with "Dilantin" sodium. Dosage was determined by self-titration, effective dosage from 0.03 Gm. twice a day to 0.1 Gm. three times daily, continued for from five months to one year.

When adequate dosage was maintained, 6 of the patients remained consistently free from attacks of bronchial asthma. Two patients reported abortive attacks, consisting of slight wheezing, which passed off rapidly. In one case toxic symptoms resulted from the drug; symptoms cleared rapidly upon withdrawal and the patient was able to resume treatment with a slightly smaller dose.

In 3 of the patients there was a marked personality change characterized by lessening of irritability. The patients were reported to be much brighter mentally and much easier to live with. In 2 of the asthmatics, eczema which had persisted since infancy, tended to clear up. Shulman says a new field of investigation, which requires much more clinical and laboratory work with Dilantin sodium in bronchial asthma, is open.

MANAGEMENT OF THE HEMORRHOID PATIENT (Therapeutic Notes, Oct.)

It is Hirschman's practice to administer large doses of mineral oil on the evening following operation and every evening thereafter in order to facilitate evacuation, when it is desirable. For those patients who cannot take mineral oil or where it is felt that mineral oil might interfere with absorption of the fat soluble vitamins A, D, E and K, the author substitutes one of the non-irritating, water-carrying bulk lubricants such as Siblin. This type of preparation, which is administered dry in teaspoonful doses immediately after each meal, should always be taken with at least a full glass of water.

In the after-care use hot compresses covered with hotwater bags. Patients are allowed to be up and out of bed on the second day following operation and to have bathroom privileges as soon as they wish. The average hospitalization period following most hemorrhoidectomies, in Hirschman's experience, is from four to seven days.

A New Mead Johnson Product—Dextri-Maltose With $$\operatorname{Yeast}$$ Extract and Iron

This product supplies vitamin B complex and ferrous sulphate in important amounts, as well as carbohydrate, in the infant's milk formula. It represents a considerable advance over previous similar Mead Johnson products, as follows:

- There are now four tablespoonfuls to the ounce instead of six;
- The patient now receives 16 ounces per can instead of 12, without increase in retail price.

For further information, please write to Mead Johnson Company, Evansville, Indiana.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

INTUSSUSCEPTION IN INFANCY AND EARLY CHILDHOOD

Obstruction of the intestine from a telescoping of the lower ileum into the first part of the colon happens rather frequently. This comes on suddenly, but unless some trouble is suspected the condition may be present for hours, even a day or more, before a doctor is called and, as in any intestinal obstruction, the longer the obstruction persists the greater the danger. In small children there is a great deal of shock and when these patients are first seen we often find them very pale, the pulse rapid, sometimes the skin almost clammy.

The cause of intussusception is not always clear, but very frequently we find it associated with some gastrointestinal disturbance, especially diarrhea. A Meckel's diverticulum or an intestinal polyp may be an aggravating cause. Sometimes there is no apparent cause. However, the chances are that extreme peristalsis in the ileum makes possible an infolding of a small intestine, and since the ileocecal valve and the junction of the ileum with the first part of the large intestine makes such a mechanical procedure quite possible, it is doubtless that extreme and very active peristalsis may at times be the cause of the intussusception. The small intestine may continue to pass into the large until on rectal examination the ileum may be palpated.

This condition usually happens in very young children, most frequently from the 4th to the 12th month. The parents or the nurse notice that the infant is in extreme pain. The pain comes in paroxysms, which probably correspond to the peristaltic waves. The symptoms which I have noticed more frequently is that the child is very pale and impresses the doctor as being in a state of shock, even extreme shock if the condition has been going on for some hours.

As would be expected, vomiting follows the attacks of pain, the signs of shock increase, and the child perspires. One or two blood-stained stools may be noted, but after that there may be no further bowel movements. Only the fecal matter in the colon below the point where the ileum has reached may be expelled.

The child rapidly takes the appearance of dehydration, the pulse is rapid, and the shock increases. Sweating is a very frequent symptom, and increases as time goes on.

The diagnosis is not easy, but usually the general appearance of the child would lead the doctor

to suspect some serious condition, and intussusception being one of these, naturally that is probably thought of first.

Between the paroxysms of pain a careful palpation of the abdomen will usually reveal a sort of mass, and even if this cannot be palpated externally, by making a sort of bimanual examination with one finger in the rectum we can often feel a mass in the ileocecal region. Sometimes an anesthetic is necessary in order to make this examination satisfactory. After the intussusception has progressed the tumor may move upward due to the evagination extending upward toward the liver or even farther. Of course, this examination should be conducted with the greatest care and while this is being done the operating room should be prepared for an immediate operation. Delay in such cases often causes loss of life.

While in some instances a röntgenological examination may be advisable, in mosts cases it is best to operate without delay and not depend upon x-

A blood count may be done, and this will usually reveal very little rise in the white count, although this may not be exactly an accurate test because of the fact that infants and very small children can have a very high white count on the slightest provocation.

Treatment for intussusception is immediate reduction. Ordinarily an abdominal incision with manual reduction of the condition is the best procedure. It is possible to reduce (with the child anesthetized) by external manipulation; but it is my opinion that this is ordinarily not giving the child the best chance, rather that it is best to reduce through an abdominal incision, at which time any other condition present such as a badly inflamed appendix or a Meckel's diverticulum may be taken care of.

After the patent is in anesthetic sufficient to produce relaxation, through a right-rectus incision the intussusception is reduced by manual pressure over the large intestine, pushing the small intestine backward over the path it has followed in getting into the large intestine. Traction on the small intestine will not reduce an intussusception, but by pressing or "milking" the intussusceptum backwards reduction may be accomplished, unless the condition has been present long enough to cause considerable swelling or adhesions. In case reduction is impossible, a resection is necessary, with much greater risk to the patient.

One might think once an intussusception develops it would easily recur, but for some reason or other this does not happen.

Before operation and afterward the patient should be given fluids—glucose, blood plasma, or even a small blood transfusion. Aspiration of the stomach should be done before and after operation. Plenty of fluids should be given for the first twenty-four hours and longer if necessary—until the child is able to take the proper amount of milk and water. If the involved intestines have adhered to each other great care should be used in starting postoperative feeding.

When it is necessary to give an infant or small child fluids we may give plasma or a blood transfusion in one of the large veins. However, in combating dehydration one of the best methods is to give subcutaneously a solution of $2\frac{1}{2}$ per cent glucose in normal salt solution. 10 to 20 c.c. may be given every two or three hours over a twenty-four hour period. It is best given subcutaneously in quantities of 5 to 10 c.c. in a place. It is not advisable to put the entire amount at one point under the skin. Naturally, this method of administration of fluids should not be kept up very long. Usually, however, a day or two is all right.

In intussusception the important thing is an early diagnosis and immediate surgical treatment for relief of the condition. Every minute of delay increases the danger to the child. An early dianosis and prompt surgical treatment will save most of these patients.

A BED FOR HOME OBSTETRICS (Edmund Lissack, in Amer. Il. of Surg., June)

For home deliveries, this bed has proved most useful during a six-year period, on isolated farms, small towns where hospital facilities are not available or beyond the means of the patient. It serves as a lying-in and delivery bed, is inexpensive, quickly demountable, and gives the obstetrician all the operating space he needs, providing for the full length horizontal and short delivery positions. The patient's legs are usually steadied by nurses, although leg holders can be easily attached. Tractor straps of heavy sash cord are supplied. Made of oak, 74 inches long, 35 inches wide, and 36 inches high, it is equipped with a Simmons link fabric spring. The patient uses this bed for about two weeks and then replaces it with the usual bed.

Our local furniture dealers carry these beds and rent them to the patients for a small fee. They are usually taken to the patient's home at some convenient time before the expected confinement date, and are set up. A number are always available. We have five in circulation now. With these special beds and with our sterile packs which we prepare, we are endeavoring to render a good obstetrical service in a rural district in Missouri.

FIBERGLAS SUTURE MATERIAL: PRELIMINARY REPORT

(Scholz, et al, in Amer. II. of Surg., June)
Fiberglas suture material is made of glass filaments (not an organic plastic but real glass). Its extreme tensile strength makes possible the use of a very fine yet strong suture. The tensile strength of a "12-braider tube" Fiberglas suture is 9.44 lbs.; knot strength 4.41 lbs.; loop strength 8.1 lbs. This is the size of No. 00 silk which breaks at 7.4 lbs. It feels and looks like the finest silk and can be handled like silk. It is sterilizable by all methods.

Fiberglas suture material has been so satisfactory in the past several years in our hands that we believe it is worthy of extensive trial and study by others.

CLINIC

Conducted by
FREDERICK R. TAYLOR, B.S., M.D., F.A.C.P.,
High Point, N. C.

A 40-YEAR-OLD unmarried woman, a college professor, consulted me Dec. 3rd, 1935. She complained of wheals and local swellings due to exposture to cold and extreme heat. She stated that the trouble first appeared in the spring of 1926, when, as she stood on the porch of a college building on a windy day, her ankles and legs began to itch. Thinking that she might have a food allergy, she went to consult a physician, but when she got to his office, the lesions (all white wheals) had disappeared. She went abroad that summer and had attacks off and on all summer. Chilling by wind, even in warm weather, was worse than still cold. She never had asthma or hayfever. She has had frequent attacks of urticaria since, and they are getting worse, the swellings lasting longer than they used to, and more of her body is affected than in the early attacks. Her feet swell till her shoes get tight, and most of the winter she feels as if she were walking on stumps. At a recent football game she got the worst attack so far, her face becoming involved for the first time. She has never developed wheals on well-covered parts of her body. In cold water, while she keeps moving, she has no trouble with the portion of her body under water, but a shoulder out of the water when swimming will often develop wheals, and when she gets' out, even in warm weather, her thighs and legs break out and swell, and this swelling is worst on the inner aspects of her thighs, on her knees, and on her feet. A bathing suit seems to protect her body enough so that no lesions develop under it even when she is wet. There is no difference in the effects of fresh and salt water, but the effects are worse in any case when she goes into the water early in the morning, before her body gets warmed by effort. Once the reaction was so severe that she thought a jellyfish had stung her. Her attacks have no connection with menstrual periods. Heavy wool underwear makes her itch a lot, without wheals. A very hot hot-water bottle will cause a welt under it. Treatment of her cold allergic attacks with a hot shower greatly increases the urticaria for a short time, but when she gets generally warmed it clears up. She has never noted any involvement of eyelids, lips, palms of hands etc. From her description, it seems to be an urticaria, rather than angioneurotic edema. She knows of nothing unusual that occurred to bring on her first attack in 1926. She knows of no sensitization to food. She cannot sit under a hair-dryer without extreme itching. No nausea or vomiting except

when her nerves give out from extreme fatigue. She has occasional headaches, has had refraction within the past year. Some congestive pelvic pain just before onset of periods, but not enough to make her stop work. She seems to have no allergy to very cold foods or drinks.

Her past history is negative save as follows: She had influenza "every time it came around till three years ago." She had a positive Mantoux test a year ago, had her chest x-rayed, and an old childhood type of tb. (arrested) discovered. However, she was fat and healthy as a child and obviously never had clinical tuberculosis. She had mumps at 30 without ovarian symptoms, but there may have been pancreatic involvement, for she says she got up too soon and had severe vomiting following this. Tonsillectomy 10 years ago. D. & C. for prolonged menstruation and leukorrhea about 12 years ago. Had a left Colles' fracture and also broke a finger in childhood.

She eats fairly balanced meals thrice daily, drinks lots of water, no milk, four or five cups of coffee daily, no tea, tobacco or alcohol. She gets seven to nine hours of good sleep.

Her family history is interesting from the standpoint of allergy. Her father has seasonal asthma and hayfever due to some pollen. Her mother is allergic to all mammalian meats, beef being the worst, and also to borax, washing powders etc. Her allergic manifestations include urticaria, allergic edema of lungs, indigestion etc. Patient is an only child.

Physical Examination.—Height 5 ft. 6½ in., wt. 150 lbs. (standard 146), t. 98.0, p. 88, r. 20, b. p. 118/74. Head negative except a tiny shred of left tonsil remains. Neck negative. Chest negative. Abdomen negative except slightly tender over left adnexa. Extremities negative except for a plantar wart on left heel that a röntgenologist is reating. Urine negative.

Diagnosis and Discussion: This is a classical case of physical allergy. W. W. Duke of Kansas City first called our attention to this condition. Those who have seen his dramatic motion pictures will recall how some of his patients are thrown into severe asthmatic attacks by exposure to heat or cold, such stimuli as rubbing the skin with ice bringing on an attack of cold asthma, or of puting one hand near an electric light bulb bringing on an attack of heat asthma. When cold is the cause, heat relieves it promptly. When heat is the cause, rubbing with ice relieves. Asthma is easily shown in motion pictures; but other forms of allergic reactions to heat and cold were also described by Duke, such as hayfever, urticaria etc.

In our patient's case, advice to avoid chilling is obviously indicated. She had taken calcium lactate without benefit. She was advised to take calcium and viosterol at the same time, as viosterol enables some persons to utilize calcium when without it they cannot do so. She improved under treatment and now gets along very well so long as she is careful to avoid chilling.

May the New Year bring the end of dictatorship and fiendishness and mark the beginning of a lasting world peace!

LONDON SURGEON REMOVED LIVE SHELL FROM MAN'S THIGH

(London Correspondent Jour. A. M. A., Dec. 12th)

Dr. Donald Hall, chairman of the Royal County Hospital, told of a man brought to the hospital with a thigh in-

For recent reviews of chemical changes (20, 23)

jured during a recent air raid. X-ray examination revealed that an unexploded shell was embedded in the tissues. The bomb disposal unit identified the shell from the röntgenogram as of the armor piercing variety which explodes on impact. If the shell exploded during the operation for its extraction, the surgeon and every one in the operating room ran great risks, especially for loss of eyesight. The removal was necessary, danger or no danger. The patient was left in blissful ignorance and the surgeon, his assistant, the anesthetist and the nurses got to work. Swiftly the surgeon removed the shell. Within half an hour of leaving the ward the patient was back in bed. The name of the surgeon was not revealed. During the operation an assistant surgeon appeared at the door of the operating room to inquire what were his prospects for promotion to the senior staff!"

CORRECTED TABLE

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TABLE II

PHYSICAL CHARACTERISTICS AND CHEMICAL CHANGES IN BLOOD REPORTED IN HUMAN $\overline{\text{BURNS}}$

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Physical Characteristics
Red blood cells
                                                            Increased
                                                                       (6, 26, 32, 34, 35, 50)
Hemoglobin
                                                                        (6, 13, 35, 47, 51)
                                                                 ,,
White blood cells
                                                                        (3, 13, 26, 32, 34, 52)
                                                                 ,,
                                                                        (3, 26)
Platelets
Specific gravity of blood
                                                                        (3, 39)
Hematocrit
                                                                        (33, 39, 44)
Sedimentation rate
                                                            Decreased
                                                                       early, increased late (24, 40)
Refractive index
                                                            Increased
                                                                       (36)
Anions (Plasma or Serum)
Chlorides
                                                            Decreased (9, 13, 20, 24, 25, 33, 36, 43, 51, 53)
Bicarbonate
                                                                        (6, 13, 24, 30, 31, 33, 39, 41, 44, 51)
Phosphate
                                                            Normal
                                                                        (32)
Lactate
                                                            Increased
                                                                       (24)
Proteins
                                                                       (24, 28, 32, 40, 43, 44, 50)
                                                            Decreased
    Albumin
                                                                        (10, 40)
    Globulin
                                                            Increased
                                                                       (10, 40, 51)
    Albumin/Globulin
                                                            Decreased
                                                                       (27, 28, 31, 40, 51)
    Alpha Globulin/Albumin
                                                            Increased
                                                                       (40)
    Beta Globulin/Albumin
                                                                        (40)
                                                                22
    Gamma Globulin/Albumin
                                                                        (40)
                                                                ,,
    Fibrinogen or Fibrinogen/Albumin
                                                                       (10, 40)
Cations (Plasma or Serum)
Sodium
                                                            Decreased (6, 43, 53)
Potassium
                                                            Increased
                                                                       (6, 38, 39, 41, 43, 53)
Calcium
                                                            Normal
                                                                       (32, 51)
Magnesium
                                                            Increased
Polypeptid nitrogen
                                                                       (14, 24, 25, 36)
Amino nitrogen
                                                                        (24)
Nonprotein nitrogen
                                                                        (24, 25, 30, 31, 34, 39, 51, 53)
                                                                ,,
Urea nitrogen
                                                                       (4, 24, 25, 33, 47, 51)
Creatinine
                                                                22
                                                                       (30, 39, 47)
Uric acid
                                                                       (4, 39)
                                                            Increased
                                                                       early (4, 32, 36)
Blood sugar
                                                                       (13, 24, 25, 33, 39, 47)
                                                            Decreased late (17)
                                                                ,,
Blood cholesterol
                                                                       (27, 28)
Icterus index
                                                            Increased
Hydrogen ion concentration
                                                               22
                                                                       (12, 24)
Blood and plasma volume
                                                            Decreased (6, 20, 33)
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Pediatrics

Offerings for the pages of this Journal are requested and given careful consideration in each case. Manuscripts not found suitable for our use will not be returned unless author encloses bostage.

As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

NEWSPAPERS' RESPONSIBILITY FOR TRAGEDY

"All the news that's fit to print" is the high claim of a certain great newspaper. Whether or not it lives up to this proud proclamation may be a matter of doubt. Certainly, the New York *Times* has a much better record for not publishing news which hurts more than it helps, than most newspapers have.

Our newspapers are granted many privileges. Privilege imposes responsibility. They exert much influence. Influence imposes responsibility. Few there be who believe that newspapers live up to their responsibilities. Many a time, when a newspaper man is asked, what good was done? by publishing a certain bit of news and thereby grievously hurting many good and innocent people, the answer has been given "it's news." Maybe so; but it was not fit to print.

A member of the staff of a metropolitan newspaper had this to say in a recent issue:

The American press—or the greater part of it—cannot escape blame for the amoral, irresponsible manner in which it handles such "sex fiend" stories as the Haight murders of last month. It is hard for a newspaperman to say this, but it must be said until our press rids itself of the yellow journalism that helps produce such horricle crimes.

That our press is culpable is implicitly admitted by one of the worst offenders. I have already discussed its editorial proposing that Haight be put to death *beccuse* he is insane, assuming he is deranged. The same editorial says:

"It is possible that young Haight's abnormal brain was inflamed by his reading about the similar double-crime of the soldier who senselessly slew two young women in Wisconsin."

The guess is highly plausible. Criminologists will tell you that sex-fiend crimes often occur in waves. Reason: the emotionally unstable people who have the makings of sex criminals are extremely suggestible. Many may lead a harmless and uneventful life, with their potentiality for crime lying latent and undisturbed. But a spark at a critical moment may start them off on a sudden, stormy path of inhuman destruction. And that spark is sometimes provided by the sensational press.

A mentally deranged man commits a sex murder. The crimes of crazy people are likely to be macabre in their very nature. The papers play the ugly thing up in all its morbid details. Other men with mangled minds are inflamed thereby to go and do likewise. The next sex fiend might well be inflamed by the yellow press's handling of the Haight case, which omitted no detail, however morbid or sordid. Indeed, the rape of a nine-year-old girl in an East Side cellar last month may not have been purely coincidental.

The yellow press says it gives the public what it wants, and that the public wants all the gory details of sex crimes. Only when aroused mothers and fathers, anxious for the safety of their own children, deluge editors' desks with protest letters will the practice of morbid sensationalism cease.

The staff writer is right. Only the most hard-headed of us are even moderately free from the power of suggestion, none of us entirely free. The publication of even a bare statement that a crime has been committed serves, in many instances, as a "trigger mechanism" to fire a charge ready to be fired. That the majority, or even a large minority, of the public wants to read such stuff may well be doubted; but, even if they do want it, that is no sufficient reason for newspapers publishing it.

Whether to publish or not to publish should be decided simply by considering whether the publishing would do more harm or more good, give

more happiness or more unhappiness.

Southern Medicine & Surgery has never, under the present editorial management, published an account of a suicide. When a doctor in our territory has decided to foredo his own life, our columns have carried no more information as to means that he died suddenly.

Apparently the newspapers play no favorites in this regard. Some years ago, when the son of the editor of a paper of large circulation in this section committed suicide, the next issue of that paper carried on its front page a long account with a three- or four-column picture.

Will not doctors exert their large influence toward remedying this deplorable situation? Here is a great opportunity in preventive medicine ready to hand.

EVIDENCE FROM A MEDICAL JOURNAL OF INDIA'S UNPREPAREDNESS FOR ENTIRE SELF-GOVERNMENT

That disgrace to North Carolina in the United States Senate, R. R. Reynolds, now sheds crocodile tears about the pitiable plight of the people of India, and demands that England set them free. Of course England could do nothing that would please this valiant peace-time soldier, this admirer-of and former consorter-with Hitler and his gang.

England can not free the Hindoos, for she has never enslaved them. She can not withdraw her civil and military authority from the parts of India in which this authority is exercised; (1) because, to do so would be to allow the Japanese to occupy, and so the war would be prolonged and the lives of many additional tens of thousands of soldiers—United States as well as English—would be sacrificed; (2) because the various sects that make up polyglot India would be at each other's throats in a month; and (3) because the state of education in India is so low as to make it plain to all informed persons that no stable government could be formed by India's own people.

In the issue for August, 1942, of the *Indian Medical Record* there was an article entitled Predetermination and Control of Sex in Utero from

which is quoted:

"For a very long time man is trying to know what is in the womb—a boy or girl. He has also been making endless efforts to produce a boy or a girl at his will. If he was right in guessing or he was successful in being blessed with a female child which he wanted, it must have been an accident—a sheer accident. Eagerness for knowing the unknown is so much that many have been to palmist or astrologer and many uneducated ladies (who are foolish and simple) call the monkey dancers and try to determine the sex of the foetus with the help of the monkey according as the latter picks up the card written boy or girl on it.

"There are many popular methods of determining the sex in utero—but none of them are reliable. One of them is that if the husband is older than the wife by a large margin, there are more sons than daughters. When the case is just the reverse, there are greater chances for girls. A European gentleman married a lady very much senior to him; there are one daughter and three sons. But if we study more cases among known persons it will be found that the theory will hardly hold water. If the husband fares badly and the wife fares well, there is more chance of a daughter. During war, there is a tremendous loss of manpower and nature tries to make up the loss by producing more boys than girls. But this theory does not help us to forecast as to whether a baby will be attached to a pair of testes or to a pair of ovaries in a particular case.

"Professor Schenk comes out with a theory that if a mother is kept on a nitrogenous diet and fat with little carbohydrate, it is more probable that a son will be worn. This is not true if we remember of the cases of the Eskimos, who live more on seal blubbers and meat with very little carbohydrate. We are not in favor of putting any mother to this test in India, for such a diet is liable to tax kidney and liver and is prone to produce toxemias of pregnancy with very uncertain prognosis both for the mother and the baby. Mr. Rumbry Dawson supports a theory that the right ovary produces male and the left, female children and that only one ovary produces ova in the month. According

to this theory, if conception in one month produces a male child—conception in the next month is to produce a female one. Considering that there are thirteen menstruations a year, a mother who is expected to have a male child on Ist Jan., 1942, will have a girl on 1st Jan., 1943, if she has been carrying again.

"Dorn and Sugarman report of a method of diagnosis of sex of foetus which is this: 2¹/₄ fluid drachms of urine of the pregnant mother is injected into the vein (ear veins) of a male rabbit (2 months old). After lapse of 48 hours, the testes of the latter (which should still be found in the inguinal canal) are examined microscopically. If there is no change, the foetus is male. If the glands are enlarged and hyperaemic macroscopically and microscopically, the slide shows proliferation of the cells and spermatogenesis, the foetus is a female child. The picture is the same, even if one of the twins is male. It has been found to be correct in 80 out of 85 cases.

"The great Manusanhita, written by Manu, says that consummations on the even days of menstruation produce a son and on the odd days produce a daughter. But unfortunately, it is not supported by facts and figures. This rule is known to many, but very few men among the intelligentsia were able to produce a son in place of daughters and many gentlemen in their attempt to produce a son have added to the number of daughters. Similarly, many gentlemen, disgusted with sons and eager to have a girl produced son after son but not a single daughter.

"Alcohol, aphrodisiac drugs, and intensive sexual passion on any side or both sides, have always given misleading and conflicting results. The reaction of vagina and semen has a lot to do not only with the question of sterility and fertility, but also with the question of male and female child, too. According to Professor Unterberger acidity of the vaginal secretion goes in favour of a girl, alkalinity in favour of boy, neutrality in favour of both, there being equal chances for boys and girls or biocular twins (of both sexes). The professor was able to influence sex determination in 74 cases by decreasing the acidity (lactic acid) of vagina by an alkaline douche of sodibicarb just before the coitus and by this method, he claims to have produced only male progeniture, where the mothers produced only female children previously."

The Indian Medical Record is one of the leading "learned" publications in India. The paragraphs are quoted verbatim. The more absurd sections of the article are omitted. If this be a fair specimen of the state of knowledge and power to reason of their best, imagine the state of their worst.

All this would be lost on Raving Robert. It should not be lost on doctors. We should use it against those who allow their envious hatred of the English to make them willing to imperil our country and civilization itself in order to vent their spleen. And we doctors in North Carolina should offer it as one more nail for the political coffin of the venomous mountebank we were foolish enough to vote into the office once occupied by Zeb Vance.

ALCOHOL LEGISLATION AND TAXATION IN BRITAIN IN WARTIME

(J. Y. Dent, Edr. British Journal of Inebriety, in Quar. Jl. of Studies on Alcohol, Sept.)

The per capita consumption of alcoholic drinks in the United Kingdom in 1913 was 27 gallons of beer and 0.67 gallons of spirits. In 1938, the latest data available, it was 14.2 gallons of beer and 0.21 gallons of spirits.

The drinking habits of the people of Great Britain have completely changed since the outbreak of the present war and the alcohol problem has been solved in so far as it was a national one. This has been brought about mainly by legislation, which is directed not at reducing drinking but at increasing efficiency and raising revenue.

SULFAPYRIDINE AND SULFAMETHYLTHIAZOLE powders seem on the basis of clinical and experimental results, to be simple, safe and effective therapeutic agents for local application to the tonsillar fossa in the control of secondary tonsillar hemorrhage not amenable to routine management.—B. C. Cunningham, Rochester, Minn., in An. Otology, Rhinology & Laryng, June.

Examinations are to be held for-

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JUNIOR GENERAL CLERKS
SENIOR STENOGRAPHERS
JUNIOR STENOGRAPHERS
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NEWS

SCIENCE ACADEMY ANNOUNCES GRANTS

Dr. E. L. Miller, secretary of the Virginia Academy of Science, has announced the awarding of research grants made annually by the Academy.

The winners of the research grants are: Dr. Lynn D. F. Abbott, of the Medical College of Virginia; Professor J. A. Addlestone and Norman Hackerman, of VPI; Dr. Ladley Husted and Claiborne S. Jones, of the University of Virginia, and Dr. C. R. Spealman, of the MCV.

The grants are the results of an endowment fund of \$12,000 raised under the academy presidency of Dr. J Shelton Horsley to aid and encourage younger men and women in Virginia with aptitudes for scientific investiga-

tive work.

This year's research committee of the academy includes Dr. Harvey B. Haag, chairman; Dr. Allan T. Gwathmey, H. H. Johnson, Dr. Gillie A. Larew, Dr. Ivey F. Lewis, Dr. Rolland J. Main and Dr. Frank C. Villbrandt. Dr. Miller and his assistants are ex-officio members.

Archibald E. Baker, M.D., announces that after January 1st, 1943, his practice will be limited to Surgery and Gynecology, Baker Memorial Sanatorium, Charleston, South Carolina.

Dr. Louis F. Verdel, chief medical officer of the Veterans' Administration Facility at Roanoke, Va., has been appointed manager of the institution.

The Veterans' Administration announced the appointment, stating that Dr. Verdel succeeds Colonel Edwin W. Jordan, who had been recalled to military service.

DR. G. B. Arnold has resumed his duties as superintendent of Lynchburg State Colony after several months in the Army Medical Corps. Dr. Arnold was retired by the army because of a knee ailment dating back to college football days.

Dr. D. L. Harrell, Jr., who was acting superintendent of the colony during Dr. Arnold's absence, has returned to the superintendency of the colony at Petersburg.

Dr. J. Hamilton Scherer, city coroner of Richmond since October, 1936, has resigned. Dr. R. Manton Wilson, former city epidemiologist, and, since last September head of the new medical aid division of the City of Richmond Health Department, has been appointed to succeed Dr. Scherer.

Dr. B. Black-Schaffer, of the Medical Colege Hospital, has been appointed assistant coroner.

Dr. Scherer resigned to devote his entire time to active medical practice.

Dr. James W. Davis, of Statesville, N. C., has been elected president of the Iredell-Alexander Counties Medical Society. Dr. J. Y. Templeton, of Mooresville, N. C., is vice-president and Dr. L. B. Skeen, secretary-treasurer.

Dr. C. J. Kelso has become a member of the medical staff of the H. F. Long Hospital at Statesville. Dr. Kelso is a native of Louisville and for several years he has been operating a hospital in Kentucky.

Medical College of Virginia

Alpha Omega Alpha, honorary medical society, presented on its annual lectureship November 24th, Dr. Tinsley R. Harrison of the Bowman Gray School of Medicine, Winston-Salem, North Carolina. Doctor Harison's subject was Cardiac Dyspnea.

Founders' Day exercises commemorating the one hundred fifth year of the college were observed in The Monumental Church on December 3rd. Dr. Haven Emerson, profesors of public health practice, College of Physicians and Surgeons, Columbia University, was the speaker.

Dr. Everett I. Evans, assistant professor of surgery, on December 3rd, gave a lecture on The Treatment of Burns

at the Chelsea Hospital, Boston, Massachusetts.

Dr. Harvey B. Haag, professor of pharmacology, recently visited Vanderbilt University in connection with the research on shock being done by Dr. E. I. Evans. While there he visited the pharmacology laboratories of that institution, which are under the professor of pharmacology, Dr. Paul D. Lamson.

Dr. Claude L. Neale has been appointed assistant professor of psychiatry, succeeding Dr. Patrick H. Drewry, Jr., now in the armed service. Doctor Neal is a graduate of the University of Richmond and of the Medical College of Virginia and has been retired from the army with the rank of lieutenant colonel.

Dr. William B. Porter, professor of medicine, on December 5th, made a talk before the Seaboard Medical Society, Wilson, North Carolina.

The Boedeker Drug Company and the Owens & Minor Drug Company have made a grant of \$100,000 each to the college for assistance to students in the school of pharmacry.

The 1942-43 session of the college will close on March 20th with Commencement exercises at 8 p. m., at The Mosque. The session 1943-44 will open on April 5, 1943.

Dr. C. C. Coleman, professor of neuro-surgery, attended the meeting of the Raleigh Academy of Medicine in North Carolina and gave a paper on War Wounds of the Nervous System. Dr. Coleman also gave a paper on Surgical Treatment of Orbital Tumors at the Roanoke meeting of the Medical Society of Virginia.

Dr. Porter P. Vinson, professor of bronchoscopy, esophagoscopy and gastroscopy, will give several papers in the next two months, first at the Interstate Postgraduate Medical Assembly in Chicago on the Treatment of Pulmonary Abscess, another on Injuries of the Esophagus at the American College of Surgeons symposium in Chicago on November 17th and on December 7th will speak at the Roanoke Academy of Medicine on Local Use of Sulfonamide in Diseases of the Trachea and the Bronchial Tree.

Dr. Lewis E. Jarrett, director of the hospital division, attended the annual meeting of the American Hospital Association in Chicago the second week in October.

Dr. Jacques P. Gray, dean of the school of medicine, and Dr. William T. Sanger, president, attended the annual meeting of the Association of American Medical Colleges in Louisville, Kentucky, the latter part of October. Following this meeting Doctor Gray will also attend the meetings of the American Public Health Association in Saint Louis and Doctor Sanger will attend a meeting in the same city on nutrition called by the Federal government.

The college has received a grant of \$11,737.00 from the Federal government for loans to students, and one of \$250.00 from Van Pelt and Brown for Research.

Dr. Edward J. Van Liere, dean of the school of medicine, West Virginia University, was a recent college visitor.

The following members of the faculty have completed the course given by the Federal government on decontamination and treatment of gas and fire casualties: Dr. Harry Walker, Dr. Harvey B. Haag, Dr. Everett I. Evans, Dr. Arthur Klein, Dr. M. J. Hoover, Dr. J. C. Forbes and Dr. I. C. Riggin.

MARRIED

Miss Gladys Pearle Jenkins, of Frostburg, Md., and Dr. Thomas Foster Wheeldon, of Richmond, were married December 26th in Frostburg.

Miss Sara Florence Crockett, of Hillcrest, Tazewell, Va., and Lieut. (jg) William Wyatt Hoback, M.D., U. S. N. M. C., of Bethesda, Md., and Roanoke, were married December 21st. They will make their home in Washington, where Dr. Hoback is stationed at present.

DIFD

Dr. Hubert Work, 82, former United States Postmaster-General and Secretary of the Interior, died of a heart ailment Dec. 15th in Denver.

Born on a farm in Indiana County, Pennsylvania, July 3rd, 1860, Dr. Work learned in early youth the value of labor and thrift.

In 1882 he matriculated in the medical department of the University of Michigan. After two years he left Michigan for the University of Pennsylvania, where he was graduated in 1885 as a doctor of medicine.

Dr. Work practiced medicine at Greelev and Fort Morgan and later settled at Pueblo, Colo., where he founded the Woodcroft Hospital for mental diseases, which he operated for 20 years.

Dr. Work's medical career was marked by the bestowal of many honors upon him. He served as president of the American Medical Association, president of the American Medico-Psychological Society, president of the Colorado State Medical Society and member of the Colorado State Board of Health.

The end of his professional medical career came when he entered the Army Medical Corps during the World War and was given supervision over medical features of the draft, with the rank of major.

He was Postmaster-General in the Cabinet of President Harding from March, 1922, until March, 1923, when he was named Interior Secretary, a post he held under President Coolidge until July 24, 1928.

Alex H. (Sandy) Redding, M.D., of Cedar Falls, N. C., died November 16th, 1942. He was 86 years old and had been in practice since 1883. Dr. Redding was a graduate of the College of Physicians and Surgeons, Baltimore, Dr. Redding lived in the same house, which he built, for 50 years. He was an excellent general practitioner.

-C. C. Hubbard, M.D.

Dr. Henry S. Stern, Richmond pediatrician, died Dec. 24th at his home. He was 49 years of age.

Dr. Stern had been practicing medicine in Richmond for the past 28 years and was a graduate of the Medical College of Virginia. He was born in Richmond April 3rd, 1894. A fellow of the American Academy of Pediatrics, he was also a member of the American Medical Association, the Richmond Academy of Medicine, the Richmond Pediatrics' Association, and an associate professor of pediatrics at the Medical College of Virginia.

He served in World War I and was attached to Evacuation Hospital 18.

Dr. B. S. Compton, 60, chief medical director of the Veterans' Hospital, Atlanta, Ga., and a native of Front Royal, Va. died Dec. 26th.

15%, by volume Alcohol Each fl. oz. contains:

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CHARLOTTE, N. C.





Educated at the University of Mrayland, he served overseas with the First Division in the First World War.

Dr. William L. Davenport, 82, retired physician of Washington and Amelia Counties, died Dec. 22nd after a brief illness at his home in Amelia.

Dr. Davenport, native of Greenup County, Ky., attended the University of Virginia and the College of Physicians and Surgeons, Baltimore, Md.

He was a practicing physician in Washington County for 23 years.

In 1912 he, with his family, came to Amelia County.

Dr. Leverett Saltonstall Early, prominent Petersburg physician and oldest in point of service in the city, died Dec. 22nd after an illness of six weeks.

Dr. Early had practiced medicine in Petersburg since 1898. He was prominent in all medical circles and was active in church and civic affairs.

A World War veteran, he served twice as commander of Petersburg Post No. 2 of the American Legion and also was a member of the Sons of Confederate Veterans.

He was local surgeon for the Norfolk & Western and Seaboard Air Line Railways.

Funeral services were held at St. Paul's Episcopal Church, with the Rev. Charles W. Sydnor, rector, officiating. Burial was in Blandford Cemetery.

Sense of humor would save us from much pedantry and dullness, from much solemn trifling calling itself research, and it would make scientific literature immeasurably more readable.—Harveian Oration, 1931—Sir Robert Hutchison.

The results obtained in the 21 patients who received intravenous injections of nicotinic acid for the relief of asthmatic paroxysms indicates that 16 were improved for from 3-15 hours.—F. E. Maisel & Eugene Samkin, New York, in Jl. of Allergy, May.

No JEOPARDY to the health of the community would be incurred by permitting school attendance and freedom of play for exposed children in the case of whooping cough for eight days, mumps for 14 days, measles for nine days, and chicken-pox for 12 days. Isolation and school exclusion after the expiration of these periods could then be invoked with adequate protection to others.

In the handling of contacts, when efforts are to be made to secure either freedom from the disease or its modification, passive immunity may be conferred by the giving of antitoxin sera of diphtheria or of scarlet fever; and in the case of measles, mumps and whooping cough, by the use of convalescent or hyperimmune sera, the last being the most effective.—J. S. Wall, Washington, in Med. Ann. D. C., Nov.

We have not observed any alcoholic beverage or group of beverages to be an offender in an appreciable number of gouty patients.—J. H. Talbott, Boston, in *Bul. N. Y. Acad. of Med.*, May 18th.





I NCONCLUSIVE symptomatology constantly challenges the physician's resources. If the patient smokes, a check-up on nicotine intake may be in order.* But this is a problem in itself, considering the reluctance of smokers to accept adjustments of tobacco usage.

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*J.A.M.A., 93:1110 — October 12, 1929 Brückner, H. — Die Biochemie des Tabaks, 1936 The Military Surgeon, Vol. 89, No. 1, p. 5, July, 1941

SEND FOR REPRINT of an important article on smoking from "The Military Surgeon," July, 1941. Write Camel Cigarettes, Medical Relations Division, 1 Pershing Square, New York City.

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BOOKS

AUTONOMIC REGULATIONS: Their Significance for Physiology, Psychology and Neuropsychiatry, by Ernst Gellhorn, M.D., Ph.D., Professor of Physiology, College of Medicine, University of Illinois. With 80 illustrations and frontispiece. Interscience Publishers, Inc., 215 Fourth Ave., New York City. 1943. \$5.50.

This book is in substance the lectures of a series delivered in the School of Medicine of the University of Illinois. Anatomical and physiological foundations are laid and on these solid supports is built a structure of great clinical importance.

Divisions include Respiratory and Circulatory Adjustments, Autonomic-Endocrine Integration, Autonomic-Somatic Integration, Physiological Results, Clinical Applications. Under the last-named head are discussed such matters of concern to the physician as Physiological and Pathological Role of Adrenalin, Hypoglycemic Coma, Regulation of Blood Sugar, Anesthesia and Anoxia, The Action of Fever and Autonomic Reactions of Schizophrenic Patients.

Essentially this is a book to explain why certain changes occur in the organism and certain symptoms manifest themselves, and how certain remedial measures exercise their beneficial influence.

Every practicing physician should have a copy, and study it daily.

LOVE AGAINST HATE, by Karl Menninger, M.D., with the Collaboration of Jeannetta Lyle Menninger. Harcourt, Broce and Co., New York. \$3.50.

This distinguished psychiatrist discusses This Medicine, Love; The Frustrations of the Child: The Frustrations of Women; The Depreciation of Feminity; Breaking the Vicious Circle; Work; Play; Faith; Hope; and Love. Those at all familiar with his writings will know in advance that each subject is presented in an original, if not a startling, manner.

It will enlarge the understanding of any reader. It will increase the usefulness of any physician.

FUNDAMENTALS OF IMMUNOLOGY, by WILLIAM C. BOYD, Ph.D., Associate Professor of Biochemistry, Boston University School of Medicine. 45 illustrations. Interscience Publishers, Inc., 1943, New York. \$5.50.

The best and plainest exposition of this important subject which has come to our attention. As usually presented immunity is a dry and hard-tounderstand subject. The author of this book plainly states that in many particulars our knowledge in this field is far from complete. The knowledge which we have is clearly and attractively set forth.

A VENTURE IN PUBLIC HEALTH INTEGRATION. The 1941 Health Education Conference of the New York Academy of Medicine. Pages viii + 56. Price \$1.00. Published October 12th, 1942.

Health education is undertaking an increasingly important role in safeguarding and promoting the health of our people. And since it is a service of many forms, the performance of which rests with many different groups, there is necessity for planning of programs, for coördination of activities, for agreement as to basic factors and aims among those who share the responsibility. To meet this need, annual conferences on health education, sponsored by The New York Academy of Medicine and coöperating official and voluntary health organizations of Greater New York, have been established.

This volume is made up of a number of papers which were given at the 1941 conference. It will be of interest to nurses, doctors, health officers, social workers, educators, and all others who are concerned with the improvement of our nation's health.

Contents

Address of Welcome, by Malcolm Goodridge, M.D.

Introductory Comments, by James R. Scott, M.D.

- 1. The Role of Health Education in the Promotion of Optimal Health and in the Retardation of Degenerative Diseases, by Edward J. Stieglitz, M.D.
- 2. Barriers to Health Education, by Edward L. Bernays.
- 3. Health Education by the Private Practitioner, the Voluntary Agency, and the Department of Health, by Allen Freeman, M.D.

REGAIN YOUR FIGURE, How to Recover the Figure after Childbirth without "Strengthening" Exercises, by Lt.-Col. J. K. McConnell, D.S.O., M.C., Member of the Chartered Society of Massage and Medical Gymnastics. 128 pages, 28 diagrams. *The Sherwood Press*, Box 552, Edgewater Branch, Cleveland, Ohio. \$2.00 net.

The book covers a subject of importance and general interest, of most concern and value to women after they bear children, of much concern to women and men who wish to retain or regain the optimum of good looks and good feeling.

EXIGENCY OF WAR

Oleum Percomorphum 50 per cent is now known as Oleum Percomorphum 50 per cent With Viosterol. The potency remains the same; namely, 60,000 vitamin A units and 8,500 vitamin D units per gram. It consists of the liver oils of percomorph fishes, viosterol, and fish liver oils, a source of vitamins A and D in which not less than 50 per cent of the vitamin content is derived from the liver oils of percomorph fishes (principally Xiphias gladius, Pneumatophorus diego, Thunnus thynnus, Stereolepis gigas, and closely allied species).—MEAD JOHNSON CO., Evansville, Ind.

OF INTEREST TO DOCTORS

DOCTORS IN SERVICE or those that expect to join the Armed Services of the United States should obtain a copy of THE MILITARY MEDICAL MANUAL published by the Military Service Publishing Company of Harrisburgh, Pennsylvania. The 5th edition, which has just been released, contains more than 950 pages of vital material, statistics, maps, and drawings of particular interest to the doctor. The purpose of the book is to present information of practical value to officers of the Medical Department of the Army of the United States. The sources of the subject matter are official publications of the War Department and instructional material published by the general and special service schools.

Of special interest is the chapter on "Medical Aspects of Chemical Warfare." While this war has not had this horror thrust on it, there are possibilities of this final phase, and so the knowledge of basic information on chemical agents, their behavior on the human body is of utmost importance to medical men.

It may interest doctors to know that the Medical Department of the United States had its origin at the very beginning of our national history. It was in 1775, upon the recommendation of General George Washington, that Congress created the first military medical service known in America. So, for the doctor who is historically minded, the chapter on "Medico-Military History" will be most welcome. Our doctors will be coming back to civilian service one day and many a paper will find itself in the medical press on subjects directly connected with this conflict. Doctors who intend to write on these subjects should read this book.

THE HEADQUARTERS of the International Society of Surgery have been provisionally transferred from Brussels, Belgium, to the United States. New headquarters have been established in the Inter-American Division of The New York Academy of Medicine. The affairs of the Society will be administered by an Executive Committee composed of Drs. Elliott C. Cutler, Col., M.C., U.S.A., chairman in absentia, Eugene Pool, Arthur W. Allen and Rudolph Matas, acting secretary and treasurer.

DR. WILLIAM T. ANDERSON, JR., for nearly 20 years director of the radiation research laboratory of the Hanovia Chemical and Manufacturing Company, Newark, N. J., has been granted a leave of absence to accept a commission as a Lieutenant in the Naval Reserve. Lieutenant Anderson has been conducting war time research with Prof. W. F. Wells, of the University of Pennsylvania, on the value of air sterilization by ultra-violet lamps for curbing such air-borne infections as influenza and scarlet fever in military barracks and in schools.

Lieutenant Anderson has long been recognized in scientifica and medical circles as an authority on radiations, especially ultra-violet. In co-operation with the late Dr. Alfred Hess and Dr. Harry Steenbock, of the University of Wisconsin, he conducted experiments on the employment of ultra-violet radiations in the treatment of rickets. With Dr. Richard Kovacs, of City Island Hospital, and Dr. David I. Macht, of the Johns Hopkins Medical School, he conducted successful research on the effect of ultra-violet on anemia and pernicious anemia.

He is a member of the Chemical Society of America, the American Congress of Physical Therapy, and the Optical Society of America. A PRIZE OF \$250.00 and a Gold Medal is being offered for the best essay on Anestehsia. This is made possible by a Grant of the Anglo-French Drug Companies of New York and Montreal, Canada. The Committee of Awards is Drs. Andre Crotti, Rudolph Nissen, Frederick M. Douglass and A. Mario Dogliotti.

Essays should be sent to the International Executive Secretary, Dr. Max Thorek, 850 W. Irving Park Blvd., Chicago, Ill. They must be typewritten in English, in manuscript form, double spaced, and must not exceed 5,000 words in length. The original must be accompanied by four carbon copies.

$\begin{array}{c} \text{HONORARY FELLOWSHIP TO PROFESSOR} \\ \text{BURDENKO} \end{array}$

At a conference of the Medical Section, U.S.S.R., on September 25th, the Society of Cultural Relations presented a certificate and insignia, as well as the medallion for Honorary Fellowship of the International College of Surgeons to Academician Nicolai Burdenko, Chief Surgeon of the Red Army. The presentation occurred in the presence of eminent Soviet medical men.





CHUCKLES

A lecturer in the auditorium was emphasizing the demoralizing effect of divorce.

"Love," he said, "is a quest; a proposal, a request; the giving of a daughter in marriage, a bequest; and marriage itself, the conquest. What is divorce?"

Prompt answer: "The inquest."

Young Father: "In your sermon this morning you spoke about a baby being a new wave on the ocean of life."

Minister: "I did."

Young Father: "A fresh squall would have been nearer the truth."

First Cottage Patient: "I was out with a nurse last night."

Second Ditto: "Well, cheer up. Maybe soon the doctor will let you go out without one."

An ex-patient was asked if he had tried a new device which is said to cut gas by half.

"Yes," he replied. "It did all the makers claimed for it, and it saved fifty per cent of my gas. I also bought a new carburetor which saved thirty per cent, got another brand of cas which saved twenty per cent, and some special soark plugs which saved another ten per cent. Then I took the car out for a test run, and I give you my word that the gas tank overflowed before I'd gone five miles."

A clerk was helping a colored employee to fill out an application for a Civil Service examination.

"Do you belong," asked the clerk, " the Nazi Bund or to any political party that plans to overthrow the government?"

"Yessuh," said the Negro.

"Which one?" asked the clerk, taken back by the applicant's placid candor.

"De Republican," was the earnest reply.

"You can never talk to that patient," said the nurse to the doctor as they left a room on the women's ward, without her giving you a full recital of her ailments."

"Yes," said the doctor, "you might almost call it an organ recital."

Doctor's Son: "Papa, what is middle age?"

Dector: "It's the time of your life, son, when you would rather not have a good time than recover from it."

In a first-aid class the instructor explained that the cause of fainting was primarily a fault of circulation and that it could be prevented by getting the head lower than the

"For instance," he said, "if you feel faint, and don't want to call attention to it, just lean over and tie your shoe lace over again."

A woman in the front raised her hand.

"What sort of knot should be used?" she asked.

The doctor had just run the length of the station platform in an effort to catch the fast departing train. A porter came along and asked: "Did yo' just miss dat train?"

"No," was the disgusted reply, "I didn't like its looks so I chased it out of town."

No clergyman being present at a recent luncheon the host singled out a pious, solemn-looking man in black coat and tie, with a religious appearance, and asked him to pronounce a blessing. The man addressed put his hand to his ear and craned forward intently.

"I know you are talking to me," he said quite loudly, "but I'm so damned deaf I can't tell what in hell you're saying!"

THE NERVOUS PATIENT, THE FAMILY PHYSICIAN AND THE CONSULTANT

(E. F. Wahl, Thomasville, in Jl. Mcd. Assn. Ga., Aug.) The family physician is often fully aware of the patient's nervous condition and probably knows the cause of it. In such instances the only purpose of a consultation is to rule out organic disease complicating the nervous disorder. There may be an honest and conscientious difference of opinion between the family physician and the consultant. When this exists an agreement must be reached before treatment is begun. Later developments somtimes show the consultant to have been in error, or actual change in the condition of the patient may occur which completely changes the therapeutic problem. When this occurs only the common sense and judgment of the family physician who is on the ground can save the day.

MYOCARDOSIS

(A. E. Parsonnet & A. Bernstein, Newark, in Med. Times, Aug.)
The pulse rate should return to its starting level two
minutes after a given exercise test in the younger group
and five minutes in the middle age group.

The blood pressure test consists in exercising the patient after the resting level has been determind. An abnormal response is present when the systolic level rises more than 20 and remains elevated for more than 10 minutes. Breath-holding determines the patient's pulse rate before and after holding the breath for as long a period as possible. In the normal response there should be a drop of from 15-18 beats; the exact point of departure from normal is difficult to determine. Inadequate as they are, these, then, era the most practical tests for the objective recognition of myocardosis. When, on the other hand, these show deviations from the normal along with the subjective symptoms of myocardosis, the diagnosis is definite.

An English physician of wide repute, deep learning, and entire assurance in the witness chair. The cross-examining attorney asked a long, rambling, complicated question touching upon varied features of the case.

The learned physician answered, calmly, "Quite."

The attorney looked at the witness in amazement and stood waiting for a moment. "Do I understand—er—is that your answer to my question?" he blurted.

"It is. Did you not understand me? QUITE—QUITE!"
—E. H. Williams in *The Doctor in Court*, Williams & Wilkins Co., 1929.

Some patients with thyrotoxicosis recover spontaneously, others become hypothyroid. During iodine administration if the basal metabolic rate falls more than would be expected, it may be assumed that spontaneous recovery is imminent. If these patients are given iodine continuously, thyrotoxicosis will not recur and iodine may eventually be stopped.—J. H. Means.

A writer who lived in the reign of Henry VIII, alluding to the cramp-rings, says, in his Introduction to Knowledge, the "Kynges of England doth halow every yere crampe rynges, ye whych rynges worn on one's finger doth helpe them whych have the crampe."—Advertising, New England Jl. of Med., Jan. 22nd.

CARCINOMA OF THE PROSTATE

..(E. P. Alyea & A. F. Henderson, Durham, in Jl. A. M. A.,.. Dec. 5th)

During the past year 40 of our patients with carcinoma of the prostate have been castrated. A follow-up in all but one case shows a low mortality. One patient had a relapse and extension of the tumor after eighe months of comfort The subjective signs of improvement after castration are increase in appetite, wellbeing and energy, relief of metastatic pain, relief of urinary obstruction, disappearance of infection and the stopping of recurrent hemorrhage.

Objective clinical and laboratory signs of improvement are lowering of the serum acid phosphate, x-ray signs of

bone healing at the site of the metastases.

Diethylstilbestrol causes a response similar to castration but not to the same degree. We favor castration first and reserve diethylstilbestrol therapy for those who show evidence of extragonadal hormone activity or refuse castration.

Fluids may be administered by the subcutaneous, intraperitoneal and intravenous routes, 30-40 c.c. of fluid per pound of body weight can be given subcutaneously per 24 hours without overdistending the skin of the dehydrated patient.

Intraperitoneally 20-50 c.c. of fluid per pound of body weight may be administered in 10-20 minutes, and in dehydrated patients it is quickly absorbed. During early infancy the needle is inserted through the left rectus muscle owing to the possibility of incomplete obliteration of the hypogastric artery; in older children in the mid-line immediately below the umbilicus, provided the bladder is not distended.

The vessels commonly employed for transfusing children include the superficial scalp veins, those in the antecubital fossa, the external jugular veins and veins on the dorsum of the hand.—C. A. Stewart, New Orleans, in *Texas State II. of Med.*, Sept.

A study of the fat tolerance, as indicated by blood cholesterol changes following the ingestion of fat, of a group of 20 patients with ance vulgaris fails to reveal any difference from a group of patients without acne vulgaris.—E. B. LeWinn & I. Zugerman, Philadelphia, in Jl. Lab. & Clin. Med. Nov.

The longer epilepsy is allowed to continue untreated the more frequent and severe the convulsions become and the more resistant they are to treatment. Every convulsion leaves some residual, and eventually the recurring seizures leave permanent damage to the brain.—M. G. Peterman, Milwaukee, in Wisc. Med. Jl., Nov.

For patients with a posterior perforation or absence of the drum or ossicles, and even in those who have had radical mastoid operations, the Pohlman apparatus has proved very satisfactory, even in cases that are discharging and in dry cavities.—M. H. Lurie, Boston, in New England Jl. of Med., May 28th.

A study of 98 cases of auricular fibrillation seen in 1939. Forty-eight patients were given quinidine up to 48 gr. a day; 12 valvular lesions, 2 hyperthyroid hearts, 33 hypertensive and coronary cases and 1 fibrillation of unknown origin. Fifteen were regulated and 33 did not respond favorably to the drug. There were 6 fatalities in this group. The result closely paralleled the report of Smith and Bolan from the Mayo Clinic.

"STARS ON ICE"

Visitors to New York City, bent on an evening's entertainment, are never disappointed with Sonja Henie and Arthur M. Witz's presentation of "Stars On Ice" at the Center Theatre, in Rockefeller Center. From the moment the curtain rises with the song "Stars On Ice" by Jack Kilty and the Ladies of the Ensemble until the final scene "Victory Ball" there is never a dull moment.

For the presentation of "Stars On Ice" the services of Miss Catherine Littlefield of Philadelphia was engaged. Miss Littlefield was the director of the Philadelphia Ballet Company and directed the mammoth dance routine for "American Jubilee" at the New York World's Fair. Mr. Bruno Maine, wel known for his work as scenic designer at Radio City Music Hall, has designed the settings for "Stars On Ice."

Among some of the outstanding performers may be mentioned SKIPPY BAXTER, who is considered the greatest jumping star the world has ever seen. He is the only skater to execute a perfect triple Salchow, the most difficult jump in ice skating; CAROL LYNNE is 16 years old and performs the most amazing acrobatic dances on skates; THE FOUR BRUISES, Geoffrey Sydney, Harry Stevens, Sidney Wilfred Spaulding, Claude Cyril Grace and Montagu Wharton Stott are known as the British Slapskaters. Of them Mr. Ed Sullivan in The New York Daily News says:

"Tve seen almost everything, but, so help me, I've never seen anything like those side-splitting show-stoppers, the Four Bruises, the English comedy act in 'Stars On Ice.' They're terrific, colossal, sensational, devastating and whatever other adjectives you need to describe the greatest act of its kind."

"WINTER SOLDIERS"

"Winter Soldiers," a drama presented by Edwin Piscator, is a new play by Dan James and was offered for the first time in December at the Studio Theatre of the New School for Social Research, 66 West 12th Street, in New York City. It is a stirring play about the German attack on Moscow and its failure, the Winter Soldiers, of course, being the Russians. The presentation is really a series of plays within a play, employing a cast of over 40 highly talented and widely experienced actors, in eleven fast moving sceins which travel from German Headquarters along the undergrown through Yugoslavia, Vienna, Czechoslovakia, Poland to Russia, the route which delayed the German War Machine. The play was splendidly done, simply, directly, without melodrama or sentimentality, permitting the course of events to speak for themselves. Its author, Dan James, is a young American, a native of Kansas City, received the Sidney Howard Memorial Award from the Playwrights Company this October. He attended Yale before he went to Hollywood where he worked among other assignments with Charles Chaplin on THE GREAT DICTATOR.

Plays under consideration and in preparation for the season 1942-43 are:

Egmont by Goethe

Sunrise In My Pocket by Edwin Justus Mayer, a play about the hero of the Alamo, David Crockett.

A Wind Is Rising by Harry Kleiner, a play by a young American author about fighting France.

For information write: M. Eleanor Fitzgerald, 66 West 12th Street, New York, N. Y.

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No. 2

Prevention of Contraction Deformities Following Burns By Use of the Padgett Dermatome*

HUGH A. THOMPSON, M.D., Raleigh

WHERE SKIN has been extensively destroyed, marked disability will result unless the skin is replaced by grafting. It is impossible for skin to grow across a wide defect. Such epithelialization as does occur furnishes poor protection and the underlying scar tissue becomes dense and contracted, interfering in a serious way with movement of muscles and joints.

Skin grafting in one form or another has been known and practiced for centuries but it was not until Reverdin's paper entitled the "Epidermic Graft" was published in 1872 that general interest was aroused in the subject. Since that time many surgeons have studied and practiced and advanced skin grafting. Prominent among these have been J. S. Davis of Baltimore, who developed the so-called pinch graft with which everyone is familiar, and Brown and Blair of St. Louis, who contributed the split skin graft, and E. C. Padgett of Kansas School of Medicine who invented the dermatome which I shall describe later.

There are a few principles which should be kept in mind by anyone undertaking to graft skin. In the first place it is self-evident that full thickness grafts would more nearly replace the destroyed skin than would any thinner graft. Unfortunately the thicker the graft, the less likely it is to take. Infection is the great enemy of grafts of any sort and a full-thickness graft is almost certain to fail on a bed of granulations, even if comparatively clean. Hence full-thickness grafts cannot be used for the purposes described in this paper, though they may be highly useful for other purposes.

To prevent contractures by obtaining rapid covering of raw areas with skin, it is necessary to use very small grafts such as the Davis pinch graft, which really is full thickness in the center, or to use split skin grafts of one sort or another. The pinch graft takes well on granulating surfaces but it does not serve well to prevent contractures because too much scar develops in the spaces between the grafts-no matter how close together they are placed. Also a long operation-time is required to cover a large area and the patient is often in no condition to stand long operations. The thin split graft ordinarily called the Thiersch graft is almost certain to take but is not effective in preventing contractures and furnishes poor surface protection. Its chief use is for cosmetic purposes or to get the wound healed so that a thick graft can be done later in a clean field.

This brings us to split skin grafts of medium thickness. Such grafts must be large enough and thick enough to prevent contractures, yet not so thick that they will not survive in the presence of slight infection such as is always present on granulating surfaces, even when carefully prepared for grafting.

If one has sufficient skill and suitable equipment such grafts can be cut by hand, but even in the hands of the best operators the thickness of the graft varies considerably. Dr. Padgett, being aware of these difficulties, all of which he has so well described in his book, *Skin Grafting*, invented the dermatome which will split skin in any desired thickness from .008 inch to .024 or more. The





first is about the thickness of a Thiersch graft and the latter is the so-called \(^3\)4 thickness graft. For the type of work described in this paper the intermediate thickness graft is used. This is .016 inch thick and has many of the virtues of thicker grafts, yet is reasonably certain to take if the various factors are attended to.

The dermatome is an instrument which was devised several years ago by Dr. E. C. Padgett of Kansas City. The purpose of the instrument is to split large skin grafts of predetermined size and thickness. The instrument consists essentially of a half-drum with a sliding blade attached which can be set so as to cut a sheet of skin of any desired thickness. The size of the drum is 4 x 8 and this is the size of the largest graft which can be cut with it. Smaller grafts can be cut when desired by covering only part of the drum with glue. A specially prepared glue or cement is painted on the drum and the skin of the donor site. The front edge of the drum is then held against the skin until it becomes adherent. The knife is then moved from side to side as the drum is rotated-thus splitting a graft which adheres to the drum. The idea is shown in the first two slides.

The graft is then removed from the drum and freed of glue by sponging with ether. The graft is perforated by numerous small cuts to allow for drainage. It is then sutured in place.

Various types of pressure dressings over the graft are satisfactory, but there must be a certain amount of uniform pressure to make the graft take. In my own practice the graft is first covered with a sort of perforated cellophane, sold under the trade name of Cilkloid. This is covered smoothly with flat sponges wrung out of normal saline. These are strapped on carefully with Elastoplast bandage, completely encircling the extremity. Over all this a plaster cast is applied. Thus the graft is held in place first by sutures, then by pressure of Elastoplast bandage, and protected by a plaster cast. The cellophane prevents the dressing sticking to the graft and allows for drainage. The dressing is left undisturbed for five days and then removed. At the end of five days the graft is either attached or dead. It seems that these grafts always take if there is a good, smooth, clean bed of granulations and if the technique is correctly carried out. If the graft is sutured under too much tension it is likely to die. If the bed of granulations is made up of hills and valleys the graft will not take uniformly. Where such irregularities exist at time of operation, the redundant granulations should be cut away with sharp knife or razor blade. Any excessive infection will kill the graft.

After the first dressing is removed a grease dressing is used. The writer prefers A-D ointment

into which 5 or 10 per cent of sulfathiazole has been mixed.

The donor site is treated in the same way except that no cast is used, and heals promptly in about two weeks. The grafts are securely attached and safe in about the same length of time.

It is necessary to spend a little time in readying the granulating bed. Normal-saline compresses changed every two or three hours night and day will serve best in getting surface infection under control. Usually only forty-eight hours of such preparation is required. Some surgeons advise the use of antiseptics but I consider this unnecessary and dangerous where the granulating bed is large. When a clean-looking, smooth, red granulating bed is obtained, it is time to graft the skin. Laboratory tests are not necessary; one can go by the gross appearance. A green stain on dressings is a danger signal. Grafts will not live in the presence of Pyocyaneus infection.*

No time is available to discuss the treatment of the first stage of burns. This is well-known and has been amply described in recent literature. Suffice it to say that the patient's general condition should be good and the secondary anemia which follows severe burn corrected by transfusions before grafting is undertaken. Grafts will not do well on very anemic patients.*

The type of graft here described is considered the best one for covering large granulating areas. The resulting skin is sufficiently elastic for ordinary function. The graft will take readily, which is not true of full-thickness grafts, and the donor site will heal spontaneously in a short time. Much larger areas can be covered in the same length of time than by any method of hand-cut grafts, and the resulting function is far superior to that obtained by pinch grafts or Thiersch grafts.

Case.

1. Patient injured in airplane crash August 9th, 1942. Multiple fractures and chest complications delayed grafting of third-degree burns over foot and outer side of leg extending 8 inches above ankle. The burn on the side of the leg was quite deep, exposing the underlying tendons.

Skin grafting was undertaken September 9th. The slide shows complete healing and good function. This photo was made October 13th, less than 5 weeks after grafting operation. The patient walks well and has little disability referable to this burn.

- 2. This boy was brought to Rex Hospital January 21st, 1942, having been burned two months previously. On admission the knee was flexed to a right angle. There was a fairly good bed of granulations. A series of casts were applied to correct the deformity and skin-grafting operations were done February 4th and February 19th. The patient left the hospital March 31st, practically healed. This photo was made October 27th.
- 3. This patient was burned April 22nd, 1942. The first slide shows condition of leg 6 months later when he was

^{*}Skin Grafting, by Earl Calvin Padgett, M.D.

admitted to Rex Hospital. The man was totally disabled. The unhealed area, 10 x 16 inches, extended down over the popliteal space onto the upper calf. The knee was slightly flexed and the movement was restricted by pain.

Two grafting operations done October 14th and November 3rd took two drums of skin at each time. The second slide shows the condition on discharge from hospital November 19th, less than 6 weeks after admission.

4. The remaining slides are a case of severe burn in a train wreck May 6th, 1942. The patient was knocked unconscious near the engine and escaping steam and water burned him severely from right ankle to right shoulder. The worst damage was to the right elbow, which was entirely denuded of skin except for a small area on the flexor surface. Skin was also burned from the outer half of the popliteal space and from the outer surface of the leg down to the ankle, exposing the underlying tendons. The grafting had to be done in stages. The patient was quite ill for a long time and operations had to be of comparatively short duration. He was discharged from the hospital September 2nd, not quite four months after injury. At that time his wounds were nearly healed and he was ambulatory. These slides were made October 15th, 5 months after injury.

COMMENT

To anyone who has seen the severe contractures which so very commonly occur from burns around joints and who knows how difficult it is to correct such deformities after they have become firmly established, it seems well worth while to go to some effort to prevent them. The technique here outlined is not too difficult for any reasonably experienced surgeon to master, and the apparatus needed is within the reach of any well-equipped hospital.

THE CLINICAL APPLICATION OF THE DETERMINATION OF CIRCULATION TIME

By Samuel Baer, M.D., Philadelphia, Pa.

Dyspnea, basal rales, tachycardia, hepatomegaly and peripheral edema usually means cardiac failure. But one may at times be perplexed in determining whether the dyspnea is of cardiac, pulmonary or extrathoracic origin; or whether the pleural effusion is due to heart disease, thoracic tumor, malnutrition or hypertension.

Two of the factors influencing the maintenance of circulatory efficiency are the minute output of the heart, and the velocity of blood flow. The estimation of the cardiac output is still a complicated procedure. The determination of the velocity of blood flow involves measuring the time required for the passage of a foreign substance from its point of introduction in the blood stream, until its arrival at another part of the body. Once a highly complicated laboratory study, demanding expensive equipment and technical skill, this today is a simple procedure, to be done inexpensively and with ease at the bedside or in the office.

Method

With the patient recumbent the arm at the level of the right auricle, an 18-gauge needle attached to a syringe containing 10 c.c. of 20 per cent calcium gluconate is inserted into a vein at the elbow and 4 c.c. of this solution rapidly injected, the end point being a sensation of heat in the back of the throat and tongue. The wave of heat then spreads to the face, abdomen, perineum and extremities. The injection is timed by a stopwatch, from the instant 't is begun until the moment the sensation of heat is felt in

the throat. A duplicate reading is made within two or three minutes. With the same needle in situ or by another venipuncture, the ether arm-to-lung time is determined. This test consists of the intravenous injection of a mixture of five minims of ether and five minims of saline; the end point is the perception of ether vapor in the upper respiratory passages. The patient will cough, grimace or denote by sour facial expression the presence of the ether. The injection is timed from the beginning to the moment the end point is recognized.

In the last few years with improvement in the technic the results obtained have been almost uniform.

The ether time is a measurement of the time necessary for the ether to pass from the antecubital vein through the superior vena cava and right heart to the pulmonary artery and lungs. Ether is so readily diffusible that the time required to reach the upper air passages is negligible. The ether arm-to-lung time is therefore an index of the functional activity of the right heart. The normal arm-to-lung time is from 3 to 8 seconds.

For determining the arm-to-tongue time, decholin, saccharin, calcium gluconate, and magnesium sulphate have been used. Irrespective of the agent, the arm-to-tongue time is that required for the injected material to pass from the antecubital vein through the right heart, the lungs, the left heart, the aorta and its branches, to the tongue. The veheart, the aorta and its branches, to the tongue is very rapid, so that the difference between the ether arm-to-lung time and the arm-to-tongue time is an accurate measure of left heart circulation. The determination of the left heart time is one of the best methods for estimating the velocity of pulmonary blood flow. Normal arm-to-tongue times range from 8 to 16 seconds, irrespective of the method used. The calcium gluconate method is the most desirable.

Perhaps the widest application of these procedures is in the diagnosis of cardiac disease. With the development of cardiac failure, the circulation time becomes prolonged. An ether time within the range of normal is evidence against right heart failure. A comparison of the ether and calcium gluconate times is of value in learning the part of the circulation in which blood flow is retarded.

Of even greater value in the diagnosis of cardiac failure, is the estimation of the arm-to-tongue time. The circulation time prolonged beyond 16 seconds almost invariably indicated the presence of congestive heart failure—averaged 26 seconds.

The test is of value in learning the response of patients with cardiac failure to therapy.

Circulation times are almost always normal in uncomplicated pulmonary disease. Normal ether and calcium gluconate times (despite the presence of dyspnea and cyanosis) are the rule in carcinoma of the lung, chronic fibroid phthisis, bronchial asthma, emphysema, lung abscess, empyema and pneumonia. In a number of cases of bronchial asthma, calcium gluconate circulation times were in the low range of 8 to 9 seconds. The development of cardiac failure in cases of chronic pneumoconiosis is accompanied by the prolongation of the circulation times.

As a rule hyperthyroidism has a rapid circulation time, myxedema a delayed time.

A normal circulation time in the presence of obvious cardiac failure should make one look for factors tending to increase the velocity of blood flow.

The circulation time test is only a measure of the velocity of blood flow; it cannot tell us how much work the heart can do. But as an aid in determining the circulatory status of a patient, or in the differential diagnosis of a number of conditions; it is quite a valuable procedure.

Hayfever and Vitamin C

HARRY N. HOLMES, Ph.D., Oberlin, Ohio President American Chemical Society Severance Chemical Laboratory, Oberlin College

DURING the past four years I have made occasional observations indicating a lowering of the body level of vitamin C during hayfever attacks.

HISTAMINE THERAPY

Other workers developed the interesting theory that histamine, C₅H₉N₂, although a normal constituent of the blood, is thrown into the blood stream in excessive amounts during allergic attacks and that this excess histamine is responsible for some of the unpleasant symptoms. On the assumption that histamine might react with vitamin C, or ascorbic acid, we mixed water solutions of the two substances; but no reaction was to be observed in the absence of free oxygen. Upon bubbling a slow stream of air through the solution it was easy to detect evolution of ammonia. Titration with 2,6dichlorophenol-indophenol showed loss of vitamin C. Later we learned that this reaction was already known. Since there is a little dissolved oxygen in blood serum, the body furnishes the proper conditions for very slow reaction.

REQUIRED REPLACEMENT OF VITAMIN C

A low level of vitamin C in the body causes weakness as well as other ills, so it is apparent that losses due to hayfever should be made good by a diet extremely rich in this vitamin, or even, in severe attacks, by administration of the pure synthetic product.

Many tests of this idea have been made by others, but there has been much confusion as to the dosage of ascorbic acid required for relief.

We therefore experimented¹ with twenty-five hayfever sufferers in Oberlin at three levels of vitamin intake; 100 mg., 200 mg. and 500 mg. daily, administered during the ragweed season from August 15th to September 15th.

URINARY EXCRETION

In most instances we were able to determine the 24-hour urinary excretion of vitamin C before giving the first dose. Whenever possible we determined the daily excretion again after one week. It is the general opinion that a healthy individual of average weight excretes from 30 to 50 mg. of vitamin C daily in the urine.

With ordinary methods of collection we have observed considerable loss by oxidation, so we used the very simple but effective method previously devised by Holmes and Campbell.² The maximum pollen count in Cleveland, thirty-five miles from Oberlin, averaged 87 for the last half of August and 80 for the first half of September. "Sneezing begins at 15." Oberlin, away from Lake Erie, has much more pollen than Cleveland.

The initial daily vitamin C excretion of twelve patients (including three not charted) averaged only 10 mg., indicating a very low level, due to destruction or inactivation of the vitamin. One excreted 20 mg., three were satisfactory and the others were not measured.

Usually, after a week of treatment the excretion rose to excellent levels, in some instances indicating body saturation. Strangely enough, patients No. 1 and No. 4 showed very good vitamin C levels before starting treatment, yet they were greatly benefited by adequate dosage.

It is evident from the table that only five sufferers made a slight gain in health after a week of 100-mg. daily dosage, while twelve gained decidedly after a similar period of 200-mg. dosage and eight reported remarkable improvement after three or four days at the 500-mg. level. Apparently there was decided gain with 88 per cent of the patients.

TREATMENT

We strong recommend that pharmaceutical firms prepare 250-mg. tablets of vitamin C in order to lower the cost and to simplify dosage. The patient (after consulting the family physician, as was done in our own recorded experiments) would do well to begin with a daily 250-mg. dose and, if no decided improvement results after one week, to try 500-mg. daily until satisfactory progress is observed. After that he might get along comfortably on 250 mg. or less during the season.

Since excess vitamin C is excreted rapidly in the urine, it is impossible to go beyond body saturation. Rarely are any irritating effects observed, yet one of our patients reported development of a rash.

REDUCING ACIDITY FOR SENSITIVE PATIENTS

Patients objecting to the acidity of ascorbic acid are advised to mix with the vitamin an amount of baking soda nearly equivalent chemically. If the vitamin is visibly crystalline, equal volumes of vitamin and sodium bircarbonate are used; if the vitamin is in a fluffy powder form, about one-third that volume of sodium bicarbonate will serve. It

^{*}Prepared for presentation to the 1943 meeting of the Tri-Stat

TABLE 1

The Results Given in Table 1 Are Significant. The Sign "——" Means There Was No Determination or Dosage for That Column

Patient number	Vitamin C in 24-hour urine before dosage	Excretion of C after one week of 100 mg. daily	Symptoms after one week of 100 mg, daily	Symptoms after week of 200 mg. daily	Symptoms after dosage
1	49 mg.			"Immense im- provement." Gain after	of 500 mg. daily
2	8 mg.	218 mg. ? (after dose of 200 mg. daily)	No relief	two days Distinct gain	"No hayfever" after 3 days
3	8 mg.	1-6 mg. (after 2 days of 600 mg. rose to 96 mg.)	No relief		"Much better" after 2 days
4	42 mg.	90 mg.	No relief	Slight gain	"Almost no hay- fever" after 4 days
5	20 mg.	35 mg.	Some relief	Decided relief	"Almost no hay- fever after 2 days
6	11 mg.	73 mg.	No relief	No relief	"Hayfever prac- tically gone" after 3 days
7	6 mg.	1-6 mg. (after 3 days of 500 mg. rose to 102 mg.)	Some relief		Great relief after 3 days
8	16 mg.	(after 12 days rose to 221 mg.)		Great relief	
9			Litle relief	Great relief	
10			Litle relief	Great relief	
11			Litle relief	"Felt fine"	
12				"Better physical condition"	"Highly favorable reaction. More refreshing sleep" after 2 days
13	16 mg.	160 mg. ?	No relief		"Distinctly better" after 3 days
14 15				Great relief in few days	
16			D. C. :: 1	"Much less tired"	
17	9.5 mg.	105 mg.	Definitely improved		
18 19	9.5 mg.	——————————————————————————————————————	Some relief "It helped"	==	
		_		Began in July. "No hayfever at all—after years of suffering"	
20	0-5 mg.	67 mg. (after 10 days of 200 mg. daily)		Vast improve- ment. From weakness to vigor	
21	_			_	(Invalid from asthma.) After I week became astonishingly vigorous and healthy
22 23	High 63 mg.	Higher 118 mg. ?	No relief No relief	No relief	Little relief No relief after
24	10 mg.		Broke out in	_	3 days
25	_	- The state of the	rash and quit	_	1000 mg. gave great relief the next day

^{&#}x27;This paper includes most of the article by Holmes and Alex inder published in Science, 96, 497 (1942).

is a mistake to mix water solutions to be kept for days, as oxidation occurs rapidly in the neutralized vitamin solution. We proved, by tests on several people, that after keeping a mixture of the dry powders eight hours and then administering there was no apparent loss of the vitamin. Patients with gastric ulcer, usually on a diet low in vitamin C because of difficulty with the roughage of vegetables and the acidity of fruits, may profit by the observation above made.

CONTROLS

Since sixteen of the twenty-five patients reported no relief, or very little relief, during the first week of 100-mg. dosage, they served as excellent controls. The psychological effect amounted to nothing. The other nine began treatment with larger amounts.

ASTHMA

As a result of comment on the one case of asthma, patient 21, the employer and the physician of a man in Roanoke. Va., persuaded him to try 500 mg. of ascorbic acid (vitamin C) for his severe asthma. He had been unable to work for the entire summer and spent half the time in bed. After two weeks of taking 500 mg. daily he returned to work.

Later seven more victims of asthma have obtained great relief. Others are trying it. There are no failures to report as yet.

Eczema

A young girl in Oberlin with a very severe and obstinate case of eczema was treated by Dr. A. C. Siddall, who has generously coöperated in certain applications of vitamin C. She weighed 32 pounds, about one-fifth the average, so the 150 mg. of vitamin C given daily was equivalent to 750 mg. for a man of 160 pounds. At the end of one month the eczema was practically cleared up. A Chicago physician, reading my report on hayfever, decided to try vitamin C on a patient suffering from a severe case of eczema. Reports from a friend of the patient indicate that excellent results were obtained. Details are lacking. A third patient is also showing excellent improvement.

This evidence is respectfully submitted to physicians in the hope that they will try the treatment in various allergic conditions and add to the evidence. One physician is now testing the effect of vitamin C on hives. Other ideas along this line will occur to the medical profession. Since there are said to be 3,000,000 sufferers from hayfever, the stakes are large.

The Army and the Navy do not want officers with a hayfever history. Why not accept them and leep them going with 250 mg. of vitamin C daily?

Farmers are exposed to great quantities of pollen from ragweed and other irritants and so hundreds of thousands of them must suffer from the weakness associated with a lowered level of vitamin C caused by pollen. This means less farm production at a time when maximum energy on the farm is a military necessity.

- We are in debt to Dr. H. A. B. Dunning of Baltimore for generous support of this research.
- 2. Harry N. Holmes and Kathryn Campbell, Jour. Lab. Clin. Med., 24: 1293, 1939.

SCHISTOSOMIASIS INFECTION: REPORT OF TWO

CASES FOUND IN NORTHERN MICHIGAN
(B. B. Blum & H. V. Lilga, Petoskey, Mich., in *H. A. M. A.*, Jan. 9th)

Unless possible occurrence of tropical disease is considered, wrong or missed diagnoses will be inevitable.

Schistosomiasis is endemic chiefly in the Mediterranean countries, the Near East and over most of Africa and nearby islands.

The incubation period ranges from 3 months to 2½ years. Most cases reported in this country have been concerned with Schistosoma hematobium. S. mansoni has been found in New York and S. japonicum in New Orleans.

A white boy, 9, passed bloody urine for three months, had enuresis for two days; small amount of blood at the end of urination, first every 3 to 4 days, in the past week daily, usually at the midday urination. He appeared to be in good health. He was born in South Africa, where his parents had been missionaries.

Leukocytes 11,400—neut. 50. lymph. 48, baso. 1, mono. 1; subsequently as high has 11 per cent eos. Urine specimens terminal few drops showed numerous pus cells and erythrocytes.

Treated with sulfathiazole. In two weeks the pyuria disappeared, the terminal bleeding persisted. On search a typical ovum of S. hematobium was discovered four weeks after the patient was first seen.

Ova were isolated in the urine of the 12-year-old brother, although he had had no symptoms and had appeared to be in good health.

Each was given an injection of fuadin in the gluteal muscles—0.5 c.c. the first day, 1.5 c.c. the second day and thereafter 3.5 c.c.

Except for mild muscular pain at the site of the injections, no local or systemic reactions occurred. Supplementary treatment was not given. The family then moved to southern Michigan, from where the mother of the patients reported to us that a second course of fuadin had been given to the younger boy because of a recurrence of ova in the urine. According to reports from the mother, there has been no further evidence of the disease.

SIMPLIFIED TOURNIQUET FOR VENIPUNCTURE (W. M. Hayes, Hamilton, Ohio, in Synthesestern Med., Dec.)

This tourniquet is a piece of rubber tubing 44 inches in length, ½ inch in diameter, with a ¼ inch bore and very resilient. The tubing is folded upon itself and passed around the upper arm. The loose ends are passed within the loop, drawn up tightly against the loop and then pulled backward and downward on the loop and held in this position as near side by side as possible. This gives a double constricting force and causes the veins in the forearm to

stand out in bold relief. The tourniquet is held in place either by an assistant or by the one who is being punctured. When the holder is told to remove his grasp the tourniquet releases itself spontaneously.

The Diagnosis of Coronary-Artery Disease

ERNEST LEE COPLEY, M.D., Richmond

THE WRITER has previously called attention to the increase in the reported mortality from coronary-artery disease. Statistics from the Virginia Bureau show 126 such deaths in the state in 1930, and a steady increase in the number from year to year till in 1940 the mortality reached 1401. The increase also continued for 1941 and 1942, when 1556 and 1560, respectively, were reported for the two years. It is generally known that prior to 1930 no separate statistics were kept for these deaths, the cause of which was then little understood and appreciated, although numerous studies had been made and reported.

Since 1930, however, more physicians than formerly are on the lookout for this disease and are studying electrocardiography as an aid in its diagnosis. Also, by means of autopsies, researches have been made on the clinico-pathological correlation of coronary-artery occlusion and infarction of the myocardium. The phenomenal increase in the reported mortality is one of the evidences of this widespread interest of physicians generally. It is claimed, though, that the diagnosis of coronary disease is frequently made with insufficient proof of its existence. The purpose of this paper is to emphasize to physicians who do general medicine, like myself, the importance of utilizing all criteria in making the diagnosis.

First I shall describe briefly some of the symptoms and electrocardiographic findings in those cases in which the criteria compel a diagnosis; then, emphasize the importance of a careful appraisal of both of these factors in atypical cases lest the diagnosis be overlooked in such instances, illustrating with a few case histories in which I think the diagnosis was correctly made, and which stress the need of the diagnosis being made in the light of all available data.

The first manifestation to expect in coronaryartery disease is chest pain, plainly anginal in typical cases. It is constant, constricting, gripping and has its primary seat "behind the breast-line." It often radiates down the medial aspect of the left arm to the lower jaw, or down both arms, or to one or both shoulders. It is made worse by work and emotional excitement, and is relieved by rest and nitroglycerine. Such pain signifies unmistakably disturbance of the coronary circulation, resulting in ischemia of the myocardium. This clinical evidence is of the first importance in the diagnosis and is obtained from the patient. Because of this fact, great care is needed in eliciting it, that its true character may be revealed.

The clinical signs are derived from observation and physical and laboratory examination. These are pallor, drop in blood pressure, a low-grade fever, leukocytosis and an increase in the sedimentation rate. These signs are so characteristic that they may be said to constitute the syndrome of a stage in the progress of coronary-artery disease—coronary occlusion with myocardial infarction.

Another clinical evidence is that of congestive failure. Heart failure not due to syphilitic, rheumatic or hypertensive heart disease, or to the anemias or vitamin deficiencies, it is safe to assume is the result of an inadequate blood supply to the myocardium because of diseased coronary vessels. The congestive failure due to coronary-artery disease does not differ essentially from that from other causes. Differentiation is important for prognosis. Generally, congestive failure due to coronary-artery disease with infarction runs a shorter course than that due to hypertension, for instance.

The ecg. changes that follow immediately in coronary occlusion with myocardial infarction are characteristic, as agreed upon by physiologist and cardiologist. These changes permit the diagnosis of the part of the heart muscle involved. The convex elevation of the ST segment in Leads I and IV and a concave depression of the ST segment in Lead III signify an anterior or apical left ventricular infarct. Elevation of the ST segment in Leads III and depression of the ST segment in Leads II and IV indicate a basal or posterior myocardial infarction.

As a rule, therefore, anginal pain, the syndrome of coronary occlusion with myocardial infarction, congestive failure not due to other causes and characteristic ST changes in the electrocardiogram constitute the evidence on which a diagnosis is made in the typical cases of coronary-artery disease. Accordingly, when these criteria, generally accepted as typical, are present in a given heart case, the diagnosis is reasonably certain

Judgment is required, however, to interpret correctly all the evidences in a typical case. It is well to remember that few medical cases present themselves tagged with the diagnosis. In the most frequently encountered surgical abdominal conditions, appendicitis, the criteria that compel a diagnosis are anorevia, nausea, sometimes vomiting, localized pain in the right lower abdominal quad-

rant, low-grade fever and a moderate leukocytosis with a relatively high polymorphonuclear count. On the other hand, every physician knows that *all* these criteria are manifest in only a very few cases of appendicitis. Impression in such cases is made on the basis of a careful evaluation of such symptoms and signs as present themselves.

The analogy of the diagnosis of coronary-artery disease to that of appendicitis does not follow through altogether. There is a significant difference. The ecg. gives much more definite information in the heart condition than does any symptom or sign alone in a case of appendicitis. However, there are many atypical cases in which the clinical evidence and the information supplied by the ecg. require careful appraisal lest the diagnosis be missed. The term atypical as used in this connection is relative, depending on the stage of the particular case and the angle from which it is approached, whether clinical or electrocardiographic. If then, the disease is present some definite clue ought to be obtainable, around which a diagnosis may be built. Next to the ecg. in importance, and in some cases more so, is a carefully elicited history of the pain or shock. The pain varies from the mild to severe type with the sense of impending death. Its location is more often than not beneath the sternum. It is also felt in the epigastric region or only in the arm or shoulder, with none felt elsewhere. Some patients report merely a sense of fullness in the chest. Therefore, any pain anywhere in the chest or its neighborhood should be considered as a possible symptom of coronaryartery disease until it is proven otherwise. It is necessary to differentiate angina pectoris from the agonizing pain of a dissecting aortic aneurism, from the pain of pleuropericarditis, from the gastric pain due to a hiatus hernia and from the mild "pain" of a neurocirculatory asthenia. Each of these conditions produces pain that has fairly typical characteristics, and differentiation is reasonably easy if we will but bear them in mind.

In my limited experience, I have also seen various gradients of shock. In a case followed from its apparent beginning, anginal pain was mild from the onset, the signs of shock were not at all distinctive at any time and yet the ecg. plainly revealed the usual evidence of coronary occlusion with heart-wall infarction of the anterior ventricle. According to Blumgart et al.23 autopsies have shown numerous occlusions of coronary vessels which in life were compensated for by collateral circulation. There was no history of symptoms felt, no observable sign of coronary-artery disease during the life of the patient. According to these findings, if collateral circulation keeps pace with the occlusion of any given coronary vessel, the life of the patient is not at all endangered. I think any unexplained shock or fall in blood-pressure in a patient over fifty years of age should be considered possible evidence of coronary occlusion with infarction, and that an ecg. should be made.

With some trepidation, I venture into the discussion of the ecg. changes which some cardiologists maintain are not diagnostic of coronary-artery disease. It is claimed that myocardial infarction gives the only ecg. changes which reasonably permit the diagnosis of coronary-artery disease. The variations, according to this contention, such as the T changes, low voltage, and the large Q3and Q2 found in alleged cases of coronary-artery disease, are to be interpreted as important or unimportant variations of the normal. It is assumed they are to be explained on the basis of some condition other than coronary-artery disease, unless they occur as a result of known myocardial infarction. This point of view is summed up as follows: "If myocardial infarction be excluded, there is no change in the electrocardiogram that in itself justifies the diagnosis of coronary disease, because the alterations on which the diagnosis is based may be-and often are-due to other causes."4 5 These differences of opinion exist among those having vast experience in this field and are beyond the scope of this paper to discuss in any detail. It is obvious that the "other causes" ought to be excluded. However, if coronary-artery disease is the cause it ought to be so established.

While not true in every instance, in many the clinical history, symptoms and signs offer ready explanation of significant alterations. This is true in acute or chronic pericarditis either of which almost always produces changes simulating coronary-artery disease. I have observed bundle-branch block, T changes and prominent Q3 and Q2 in cases which, in the light of clinical data, I diagnosed coronary-artery disease. I have also considered suspicious certain alterations due to the position of the patient and to very deep or very shallow respiration while the tracing were being made. Reëvamination clears up nearly all such cases.

There are many other alterations which are not as easily explained, due probably to varying degrees of disease processes in the heart. It can be surmised that the extent of disease of the coronary vessels necessary to produce occlusion, and to produce alterations in the ecg., varies greatly in different hearts. Often the ecg. is normal in a case of angina pectoris, though sometimes transient ischemia gives characteristic changes during an attack. Also the area of the injured heart muscle following occlusion changes from day to day, and each heart varies in the speed with which these changes due to healing take place. The ecg. of any group of cases taken immediately after occlusions will be strikingly similar, while those taken several

days, a week, or a few months later will vary greatly in the alterations shown. A careful reëxamination of the history of substernal pain or of some unnoticed shock will often throw light on the ecg. alterations. It has been stated that in the diagnosis of coronary occlusion the ecg. is at its brilliant best. I think, however, in the most of the cases in which this machine is at its brilliant best, the diagnosis is obvious from other data. There are many instances in which it is not convenient to make an ecg. In such cases, the diagnosis must be made on the basis of other criteria.

The ecg. is of immense value as confirmatory evidence. It furnishes valuable information as to the portion of the heart involved. However, in all cases in which the tracings are atypical the cause of the alterations, whether coronary-artery disease or some quite different condition, must be found through some important clue obtained from the history or physical findings in the particular case. Substernal pain, or that felt in the arms, shoulders or epigastric region, is the most important one factor that compels that attention be directed to coronary-artery disease as the best explanation of alterations found in such cases. If there be, in addition, T changes, or some other alteration considered diagnostic, I inform the patient he has coronary-artery disease, and treat him accordingly. I have seen patients suffering from shock and with a distinct fall in blood-pressure, but without substernal pain and their ecg. normal, carry on their usual occupations without any signs of heart involvement. I have seen patients with only mild substernal pain or oppression, but with inverted T waves, and I diagnosed their condition coronary-artery disease and advised them accordingly. The impression grows on me that there are more cases of coronary-artery disease overlooked than wrongly diagnosed. The expert may be able to make a final diagnosis of its presence or absence on the basis of an ecg. alone. In all cases. and particularly those with questionable ecg. alterations, all available criteria must be carefully studied lest a wrong diagnosis be made or the correct one overlooked.

The following cases are presented with their respective ecgs. I have indicated in the summaries the bases on which each diagnosis rests.

A white woman, 72, complained of dizziness, fullness in the chest and dyspnea on exertion. She had been in poor health for several years. The heart was moderately enlarged to percussion, the sounds of poor quality, b. p. had varied from 170/90 to 200/100. At the time of the ecg. April 30th, 1942, it was 140/80.

The ecg. revealed normal rhythm. heart rate 70, left bundle-branch block, wide QRS waves in all leads, M-shaped QRS in lead III, characteristically inverted T wave in lead I, diphasic T wave in lead II and upright T wave

in leads III and IV, left axis deviation and a P-R interval of 0.18 sec.

The left bundle-branch block and the fullness in the chest suggest coronary-artery disease to be the most likely diagnosis.

A white railroad engineer, 56, came to my office April 22nd, 1942, complaining of fullness beneath the breastbone. The b. p. was 170/100, heart not enlarged to percussion and the sounds were of good quality. There was no history of any previous chest pain. Nitroglycerine and bed-rest were prescribed. Two days later he went on his usual run, and had to be taken from his train at the end of the trip to a company hospital where his condition was diagnosed pneumonia. He was examined five days later in his home. He was then weak and pale, with b. p. 110/60, heart sounds distant, t. 101°. Examination revealed no signs of pericarditis nor of pneumonia. He ran a low fever for ten days. Several blood counts showed leukocytosis.

The ecg. revealed normal rhythm, heart rate 90, normal P waves and P-R interval, QRS duration .09 sec., S-T segment elevated in leads I and II, T waves upright and almost flat in leads I, II and III, and upright in lead IV.

Based upon the history of substernal oppression, the absence of evidence of pericarditis, and elevation of the S-T segments in leads I and II, the diagnosis was coronary occlusion and infarction of the left anterior heart wall.

A white woman, 70, who had had substernal pain radiating to the left shoulder for several months and been treated with bed rest for hypertension. Her b. p. was 180/100, heart moderately enlarged to percussion, sounds of good quality. She had given up all work because of the substernal discomfort.

The ecg. showed normal rhythm, heart rate of 70, mild left axis deviation, P-R interval of 0.10 sec., QRS duration of 0.12 sec., diphasic and mostly upright QRS in leads I and IV, diphasic and of low voltage and mostly upright in lead II, diphasic and mostly inverted in lead III, large Q3 and Q2, S-T segment slightly elevated in leads I and IV, slightly depressed in II and III, diphasic in lead IV and intraventricular block.

The large Q waves in leads II and III and the persistent substernal discomfort strongly suggest coronary-artery disease to be the correct diagnosis.

A white man, 61, was seen October 30th, 1941, two hours after he contended he had had an attack of acute indigestion due to having eaten bologna sausage. His body was cool and moist. Otherwise his appearance did not indicate a coronary thrombosis. He had had a moderate hypertension for a considerable time and the b. p. was now 110/60. He insisted that the attack was indigestion and that the pain was due to gas. His general appearance did not suggest a coronary accident. An ecg. made the next day and further questioning elicited the symptoms and signs of typical coronary occlusion and infarction of the posterior heart wall.

The ecg. revealed normal rhythm, heart rate of 80, normal axis, normal P waves, P-R interval of 0.16 sec., QRS duration of 0.06 sec., normal QRS complex, except for moderately low voltage, the S-T segments elevated in leads III and IV, T wave diphasic in lead III and inverted in lead IV.

The ecg. was of immense value in making a definite diaenosis. The diagnosis hased on the elevated S-T segment in lead III indicated occlusion of the posterior coronary artery with infarction. The elevation of the S-T segment in lead IV suggested occlusion of the anterior vessel and infarction. The case ran a course of fever, leu-

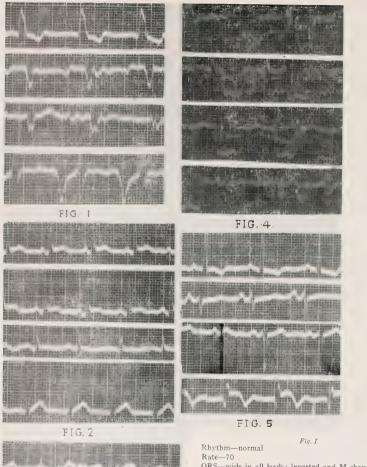


FIG. 3

QRS—wide in all leads; inverted and M-shaped in lead III T—characteristically inverted in I; diphasic II; upright in

III and IV Axis—left axis deviation

PR---0.18

ORS-0.12

Left bundle-branch block

Fig. II

Rhythm—normal Rate—100

P waves-normal

PR-0.16

ORS-0.09

QRS-essentially normal.

ST—elevated in I and II, slightly in III, normal in IV Coronary occlusion with myocardial infarction left anterior wall Fig. III

Rhythm-normal

Rate-70

Axis-slight deviation to left

P-normal

PR-0.18 sec. ORS-0.12 sec.

ORS-diphasic and mostly upright in leads I and IV. diphasic and low voltage in II. diphasic and mostly inverted in III. Large QIII and QII, notching and slurring in all leads

T-normal I, diphasic and flat II, inverted III, diphasic in

QII and QIII suggest coronary occlusion with infarction

Fig. IV

Rhythm-sinus Rate-80

Axis-normal

P-normal and upright leads I, II and III, flat in IV

PR interval-0.16

ORS-0.06

QRS Complex-normal except moderately low voltage RST-Elevated ST in leads III and IV

T-diphasic in leads III and inverted in IV

Elevated ST segment in lead III typical of posterior coronary occlusion with myocardial infarction

Fig. V

Rhythm-sinus

Rate-75

Axis-left axis deviation

P-normal in I, II, III; flat in IV PR interval-0.18 sec.

ORS-0.08 sec.; normal I, short R II, inverted III; R slurred in I, II, IV RST-depressed I from digitalis, II depressed; flat III,

high take-off IV

T-inverted, low II, upright III, inverted IV T waves and ST segments consistent with anterior coronary-artery disease, exteme left ventricular preponderance.

kocytosis, low b. p. and extreme weakness, but without decompensation. Complete recovery took place.

A white man, 64, had experienced severe pains throughout his chest for several years and repeated ecgs, were all normal. The b. p. was 200/110, the heart enlarged to the left on percussion.

The ecg. made April 21st, 1942, revealed normal rhythm, heart rate of 75, extreme left axis deviation, P waves normal in leads I, II, III and flat in lead IV, P-R interval of 0.08 sec., QRS duration of 0.08 sec.; QRS complex normal in lead I, low R2, inverted in lead III; R slurred in leads I, III and IV; S-T segment depressed in leads I and II from digitalis, flat in lead III and elevated in lead IV; T inverted in lead I, low in lead II, upright in lead III and inverted in IV.

The inverted T wave in lead I and flat in lead II, and the elevation of the S-T segment in lead IV indicate an acute coronary occlusion with infarction of the anterior left heart wall.

There are many cases of coronary-artery disease which can be diagnosed on the basis of either the clinical data or the electrocardiographic alterations. The majority of cases, however, are not so readily recognized. These five, taken from a group of cases I have seen in the past two years will illustrate the practicability of making the diagnosis in the light of all available data.

SUMMARY

The chief clinical evidence and electrocardiographic changes that compel a diagnosis of coronary-artery disease are briefly described.

The importance of a careful appraisal of the clinical data and the electrocardiographic alterations in the atypical cases is emphasized.

Five cases are presented in brief outline illustrating the necessity of the diagnosis of coronaryartery disease being made in all questionable cases in the light of all available data.

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SUPERSTITION AND MEDICAL PROGRESS

(E. B. Krumbhaar, Philadelphia, in Trans. Col. Phys. of Phila., Dec.)

A notorious delusion was the Metallic Tractors, patented in 1796 by Dr. Elisha Perkins of Norwich, Connecticut. The Tractors, one of iron and one of brass, though supposed to contain, one copper, zinc and gold, the other silver and platinum, was manufactured at a cost of a shilling a pair, and readily sold for five guineas. Perkins' discovery was received enthusiastically here in Philadelphia, and spread rapidly to Europe. George Washington bought himself a pair. Incidentally, his diaries show that at one time he paid \$25 for a visit to a Hex doctor at Lebanon, and at another he had an iron ring put on Patcy, his stepdaughter, as a cure for fits. Already by 1802, five thousand cures had been reported!

Psychoanalysis has not been with us long enough for us to know whether or not it is here to stay. The statistical method, comparing test cases and controls-about the only scientific method available-was avoided by Freud and is still almost unused by his followers.

We must pay heed to old Isaac Watts, who said that "the child taught to believe any occurrence a good or evil omen, or any day of the week lucky, hath a wide inroad made upon the soundness of his understanding."

VARIATION IN HOSPITALIZATION WITH SIZE OF CITY, FAMILY INCOME, AND OTHER FACTORS (S. D. Collins, U. S. Public Health Service, in Public Health Reports, Oct. 30th)

Data on the frequency of illness and hospital care were recorded for a 12-month period by periodic canvasses of 8,758 white families in 130 localities in 18 States. The surveyed families from rural, urban and metropolitan areas, from all income classes and of both native and foreignborn persons.

The 4 procedures which were found to be responsible for half of all hospital service were tonsillectomy, deliveries, appendicitis and treatment of accidental injuries.

The Physician Looks Beyond This Life

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I. What Many of Us Think: Reasons for Our Error PARADOXICAL it is that the physician in the practice of medicine spends much time with many of his patients who are either about to pass or are in the act of passing to a better life or a life far worse, and yet he devotes little thought to his patients' or his own hereafter.

What could be more remarkable than that physicians, so intimately associated with death, apparently give so little serious thought to death and what lies just beyond death. Why do we appear so indifferent to the greatest need of others and even ourselves? Why is it that we do not, or perhaps cannot, know something of, and look forward with intelligence and assurance to our state of being at the close of this life's brief span of years? Even with an occasional, fleeting thought to our herealter—how can we "neglect so great a salvation" (Hebrews 6:2) and go on from day to day groping in the darkness of our dangerous ignorance and stumbling blindly in that dangerous ignorance of sufficiency unto ourselves?

The physician's failure to make proper provision for his spiritual welfare in this and the future life is due to his lack of knowledge and faith regarding the fundamental doctrines as contained in the original translations of our Old and New Testaments. This knowledge, and this faith which "cometh of hearing, and hearing by the word of Christ" (Romans 10:17, R. V.), so necessary to our understanding of God's plan of salvation and His basic spiritual principles may be partially or completely lacking from our understanding because of six correctable errors, as follows:

1. Forgetting the teaching in youth by godly, Scripture-believing, Scripture-loving parents, whose fundamentals of the true Christian faith are now only ghosts of memory. Such teaching is now clouded out of our minds by science, philosophy, the things of this present age. Just as our country was founded and had its beginning, so had we ours—many of us. In pioneer days wherever the settlers went, the Bible, God's Inspired Word, went with them and in the little log meeting-house in woods or village the people gathered to hear the reading of God's Word that they might have the faith to do His will as they learned it. Upon this simple faith, this simple piety, this simple love towards Christ, our Nation was built! In like mant

ner, did we as small children gather about our mother's knee as she read to us from this same old vet modern book and so planted in us the seeds of the old pioneer faith. While God's unchanging law -that "faith cometh of hearing, and hearing by the Word of Christ" (Romans 10:17, R. V.) was regarded and kept, sufficient faith was had and maintained to enable us to believe and understand, without doubt or skepticism, those basic spiritual doctrines. But, with the development of the sciences, the increase of learning, a materialistic age -Nation and individual became too educated, too up-to-date to rely on God's revealed Word of the Scriptures. Hence the Bible was not read, or heard; God's sacred law of Romans 10:17 was violated and the faith necessary to our spiritual life disappeared or became dangerously weak! The more natural knowledge, the more of reasoning power we came to possess, the less spiritual knowledge or knowledge of the revealed Word of God we had (I Corinthians 2:14).

Since the things of God have come to us through the Bible by revelation rather than by human reason, these supernatural things were reasoned away and supplanted by mere faulty human reason and belief. As a result, gross unbelief of the cardinal doctrines of the Scriptures came in and left many of us in our present unsaved, or un-born-again plight.

- 2. We are also robbed of our faith either wholly or in part by one of mankind's oldest enemiesignorance. The great spiritual law of Romans 10:17 is also rendered of no effect by our failure at all times during our lives to hear the Word of God, either from our parents or from other sources. Throughout the whole extent of our lives the Bible to many of us has remained a closed book. How can we possibly know the contents of a letter, a book, much more the Book of books, if we have never heard or read their contents? Yet how many of us have been guilty of doubting or even criticising the the contents of this Book while grossly ignorant of its contents-long since tested, tried, even by the most skeptical, and ever proving to be true.
- 3. Failure to hear the Word of God, through excuses of being too busy to consult the Bible daily; failure to affiliate with a church where the unadulterated Bible is preached, believed literally

and followed, and to join a good Bible class in which the Bible is used rather than a piece of paper upon which is printed only a few lines of Scripture and much so-called interpretation.

- 4. In these chaotic times when civilization, such as we have, is crumbling, the student of the Word of God cannot help but be aware of the state of spiritual hunger of our people. One has but to address a gathering of people upon some Scriptural subject or observe an audience listening to such a subject, to see that only a small number are inattentive. However, just let the speaker abandon Scriptural truth for sermonizing or philosophizing -call such discourses what you will-and the attention of an audience is soon lost. The same is true of false teaching because the Spirit of Truth (the Holy Spirit) is not present to interpret the preacher's remarks to the people, nor is He present to keep up the interest. Compare any audience listening to the God-revealed plan of salvation by the grace of God through simple faith in the Son of God and His sacrificial death on the Cross, with an audience listening to a man-made, Satan-inspired philosophy of earning our Salvation through our own good deeds, philanthropy etc., and you will at once realize that the Holy Spirit is present at the Spirit-inspired gathering, convicting men of their sins and comforting them by winning many souls to Christ. All teaching about salvation which leaves out our Lord's sacrificial death on the cruel and bloody Roman Cross is unscriptural, hence false! Neither man nor Satan can devise a plan of salvation, for salvation, our eternal life in Heaven with God, the Father, and God, the Son,-"is of God"! (Ephesians 2:8-10).
- 5. Another of mankind's greatest enemies, especially to those in the educated classes, is vainglory or the "pride of life" of our ancient and well-tried Holy Scriptures. Pride of life was one of the cardinal temptations offered Eve by Satan—that "the tree was to be desired to make one wise, she took the fruit thereof and did eat" (Genesis 3:6). Especially are we warned of this pride by the Holy Spirit as one of the great reasons for our continued rejection of the Son of God and His substitutionary atonement on the Cross for us—"For all that is in the world, the lust of the flesh, and the lust of the eyes, and the pride of life, is not of the Father, but is of the world. And the world passeth and the lusts thereof: but he that doeth the will

of God abideth forever" (I John 2:16-17).

One reason for pride's entry into our lives is man's unwillingness to acknowledge his own weakness and submit to the unering will of God, to admit that "For I knew that in (that is, in my flesh (myself), dwells no good thing * * *"
(Romans 7:18) and that we can do all things only

through the indwelling Christ of the born-again person which "strengtheneth" us (Philippians 4:13). The Gospel is most unpopular to educated persons, especially to the technically trained, for the reasons given-this old pride, or pride of life refuses to be belittled or encroached upon in favor of the Almighty Nature and Sovereignty of the Godhead, or the Trinity. We must ask God, the Father, in the Name of God, the Son, to cleanse us of this pride to enable us to trust His Son completely for our cleansing from this and all sin, to trust the Son of God and Him alone for our soul's salvation and to reveal to us His will out of the Word of God. With such a simple prayer, our God will then teach us abundantly-(I Corinthians 2:14)-"Now the natural man receiveth not the things of the Spirit of God: for they are foolishness unto him; and he cannot know them, because they are spiritually discerned."

6. Unbelief regarding what God has said in His Holy Word is the principal hindrance of the Holy Spirit's convicting us of our sins and bringing us to God through simple faith in the sacrifice of Christ on the Cross of Calvary. Unbelief of the Gospel has as it sources Satan and his many false prophets in many pulpits throughout our land today. Moreover, unbelief results from forgetting the plain teaching of the Bible regarding our salvation (I Corinthians 15); from ignorance of the Word of God and God's simple plan of salvation; from failure of people, especially the educated classes, to hear the Gospel as laid down by Holy Writ; from false teaching relative to God's Scriptural plan of salvation; from our ever present human "pride of life" or vainglory and our unwillingness to acknowledge that what comes to us of success, skill, the rendition of good works etc., is our own only in the will of God, only in love, honor and obedience to His will. "I am weak, but Thou art mighty." For our every breath we are dependent upon His good pleasure. For instance, out of God's will, we could not draw our next breath and the mystery of the heartbeat would cease in the sudden death of our whole physical organism. Only God gives us physical life and only God can give us spiritual or eternal life through simple faith or trust in Christ, even in His Sacrificial Death for us personally or individually. Indifference to these great truths of the Bible is only a manifestation of unbelief in what God has said in these sacred and time-tested pages of truth.

II. WHAT GOD SAYS ABOUT LIFE ETERNAL AND OUR SERVICE TO HIM

The Scriptures plainly teach that each one of us needs a Saviour (Romans 3:9-10; 8:7) on account of our inability to save ourselves; that we must be born again by simple faith or trust in Christ (John 3:3-7).

Casting aside all of our own popular non-Scriptural concepts of the way to the Glory after this life is spent, some statements must be made relative to God's way to eternal life. First, we must have that simple faith in Christ who alone can give us eternal life. The faith that we must have to believe God's Word about His Son is the gift of God. If we feel that we do not have this faith or have it in insufficient amount, we should pray the Father for it in the Name of the Son (John 15:16; Hebrews 11:6; Colossians 2:2-9; R. V.) and in time He will give it to us full-fold. Second, we must have a repentant attitude towards God who will freely forgive us if we ask Him (Romans 2:4; II Corinthians 7:10; Acts 17:30; Acts 20:21; Acts 11:18-26:17-20; Luke 24:45-47) this only if we consider ourselves lost sinners without Christ (John 1:12-5:24). Third, we must trust the Son of God and His redemptive death on the Cross alone for ourselves individually (Galatians 2:20-21; Hebrews 9:12-9:15); belief in the Gospel which is the Death of Christ for us, His burial, His miraculous bodily resurrection, and His personal, visible and bodily return for his own, afterwards to reign on the earth forever and ever (I Corinthians 5:49-58; I Thessalonians 4:13-18; I John 3:1-3; Luke 1:26-33; Acts 1:11; Luke 21:26; John 14:1-3; Revelations 3:10). Fourth, we must receive Him as our personal Lord and Saviour (John 1:12-10:10). Fifth, that we might further please God, we must fully yield or surrender to Christ and ask God for a Christ-controlled life (Luke 12:12: John 14:26-16:13: Romans 6:13-12:1; II Timothy 2:15; I Thessalonians 4:11-12). Sixth, we must daily ask God to lead us by His Holy Spirit, the Third Person of the Trinity, in the diligent study of His Written Word that we might daily know His Will (II Timothy 2:15). On acceptance of Christ as Lord and Saviour, the Holy Spirit comes at once to live within us, never to leave us as God has promised (Galatians 2:2; Colossians 3:4; I Corinthians 14:15; I Thessalonians 5:17; John 14:17-27). Seventh, after we have done these things by God's help, we should dedicate the remainder of our lives to the service of Christ, who will never fail us in showing us those good works He would have us perform for Him (Joshua 1:5-9; Hebrews 13:5-6; James 2:17); moreover, He will increase our knowledge and ability in working many wonders (Acts 4:29-30) for His own honor and glory that we might express our praise and thanksgiving to God who has made us all that we are and ever can hope to

The proper attitude for us to take when we make our complete surrender to the will of God is to consider ourselves merely instruments in God's hands. When we submit ourselves fully to this

Divine Will, then God can use us to the utmost (Philippians 2:13). If we fail to submit to His Will then we are only dull, inefficient, make-shift instruments for God to use. Not only will God use us to the utmost in our calling when we yield to Him completely but He will use us to tell others of Christ (Ezekiel 33:8-9) and of how He saved us by His Death on the Cross (Hosea 13:14; Matthew 20:28; Mark 10:45). Others will be won to Christ by our mere confession of Him and by our humble testimony. God commands us to do this, and by His help, this we must do! (Matthew 10:32-33; Romans 10:9-12)—

I will not work my soul to save For that my God hath done; But I will work like any slave, For love of God's dear Son.

Selected.

Not by works of righteousness which we have done, but according to His mercy hath He saved us. —(Titus 3:5).

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CONVALESCENT HUMAN SERUM THERAPY (C. M. Hyland, Los Angeles, in Rocky Mtn. Med. Jl., Oct.)

The important facts established by the use of convalescent sera are: The protection of infants against measles; let them grow into an age when they do not run the chance of complications, then inject them with measles serum on a later day following exposure and modify their measles. Scarlet fever serum is of exceptional value in the protection of those exposed to the disease and in the treatment of established cases of scarlet fever. Hyperimmune pertussis serum is very valuable in the prevention and treatment of whooping cough. Mumps convalescent serum is of value to protect contacts and lower the incidence of complications. I believe, contrary to some adverse reports, the use of poliomyelitis convalescent serum could be contined.

Papilldedma is generally unaccompanied by marked visual change unless it has been present for a considerable time. A severe compression of the nerve fibers may lead to early visual loss. Ordinarily restoration of function is prompt, but if the strangulation of the nerve is protracted, secondary atrophy may result.—A. J. Bedell, Albany, in Trans. Amer. Ophthal. Soc.

As a general proposition, we can divide the normal cycle of life into three periods, development, maturity and decline, each lasting about 30 years and each broken about the middle by a critical period of climacteric.—Nascher.

MEMBERS OF THE WISCONSIN MEDICAL SOCIETY, by a resolution passed at the Society's meeting in 1856, were required to record histories of all cases of interest. To obtain uniformity in the investigation and reporting of cases, a committee was appointed to prepare the form to be used by the members in keeping the required records.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

FURTHER OBSERVATIONS ON THE TREATMENT OF UNDULANT FEVER

We have found some very intractable cases of Brucellosis or undulant fever in younger people, the treatment of which has been continued over a considerable period of time before the patients have apparently recovered. While the treatment may be disappointing, both to the patient and the doctor, yet I have come to the conclusion that careful, persistent treatment will finally relieve the condition.

Our experience has been that fever therapy together with repeated transfusions of immune blood produce the best results.

Obtaining blood from those who have had the disease is difficult because of the fact that such donors are not always available. Those that are available as a rule have such a low titer that the blood would not be satisfactory for transfusions.

We have obtained immunity in donors by using the vaccine until the titer has reached a very high point.

Often after a transfusion the patient's temperature will drop to normal within forty-eight hours and remain so several days to a week and then gradually return, but probably not quite so high as before. In some of our cases repeated transfusions have apparently cleared up the condition and the patient's temperature remains normal.

It is not always easy to tell just when a patient may be considered well. When a patient feels well for weeks, however, and has none of the ordinary subjective symptoms of the disease, I feel that we may consider the patient well.

Although the response to treatment is sometimes slow no doctor should undertake the treatment of this disease unless he is willing to proceed in the treatment until the patient is relieved. Our experience has been that persistent and proper treatment will eventually effect a cure.

FRACTURE OF THE SCAPHOID BONE

FRACTURES of the scaphoid bone of the hand may be readily overlooked unless carefully searched for. Sometimes the fracture is slow to heal: non-union sometimes occurs, and for this reason it is doubly important to examine very carefully any injury of the hand in which there may be an injury to this bone or in which pain is persistent.

History may be given of a hand injury with persistent pain about the wrist joint for many months, with tenderness around the scaphoid bone, and neither symptoms nor the location of the pain be exactly diagnostic. An x-ray picture is necessary in order to determine if there be a fracture of this bone or non-union of an old fracture.

In case of non-union a treatment frequently used is to place a bone peg as a means of internal fixation of the fragments so as to hold them in good position and give the bone a chance to unite.

Some patients object to operative treatment of a fracture of the scaphoid bone. In such cases it may be that the pain will increase, also the disability. The length of time required for healing is usually from three to six weeks. The younger the patient the more rapid the healing.

The incision for exposing the scaphoid bone should be carefully planned. The styloid process of the radius is a sort of landmark by which the bone is located. A careful examination of the anatomical relationship between the carpal bones and the radius and ulna shows this clearly.

A good x-ray picture of this bone is sometimes little difficult to obtain. Both Codman and Scudder emphasize the importance of a correct position in order to obtain a good radiograph which will show the bone through its entire length. This may be obtained by placing the two wrists of the patient in adduction, and the x-ray tube in a position midway between the two hands somewhat anterior to the wrist joint and near or just back of the knuckles. The x-ray examination should be repeated if necessary in order to get an accurate view of the fracture.

The importance of hand injuries should never be rated lightly. An apparently trivial injury may be serious and if there is ever the least doubt as to the condition present the x-rays should always be made use of, repeatedly if necessary.

REPORT OF A CASE OF RUPTURED INTERVERTE-BRAL DISC FOLLOWING CHIROPRACTIC MANIPULATION

(E. D. Fisher, Murray, in Ky. Med. Jl., Jan.)

A white woman, 32, came to us on May 6th, 1939, complaining of low back pain off and on for 15 years. The lumbar vertebrae were tender with periods of pain radiating from the lumbar spine into the buttocks.

On the day previous to admission she was given an adjustment to her lower spine by a chiropractor. The next day she developed a saddle-shaped area of complete anesthesia over the buttocks. She was unable to void, lost control of the sphincter muscles.

The diagnosis was a herniated nucleus pulposus. At operation a herniated fibrocartilage (5th lumbar) was removed. Postoperative diagnosis was almost complete rupture of the 5th lumbar disc with pressure on cauda equina.

There was almost immediate relief of pain and gradual relief of bladder and rectal symptoms. At two weeks relief was almost complete.

Morphine slowly by vein, 50 c.c. of 50 per cent glucose intravenously have been tried with some degree of success. Spinal drainage has also been advocated. Heat, a hot tub, forcing fluids, and the avoidance of stimulants, are also recommended.—L. Frank, in Military Surg., Sept.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

THAT, TOO, IS DEMOCRACY

Many physicians in the United States are disturbed and even perturbed by the announcement of the recent decision of the Supreme Court of the United States that resulted in the imposition of a fine upon the American Medical Association and at least one other medical group. Both the national and the smaller medical body may be able to pay the fine without being brought to the brink of bankruptcy.

But many physicians doubtless object more to the great Court's insistence that physicians ply a trade than to the conviction of the two organizations as violators of the federal law and to the levy of fines. If we medical men have been thinking of our professional work as still so closely allied to that of the priesthood that we are without interest in materialistic acquisitions and possessions, the Court's pronouncement would suggest to us the advisability of correcting our pleasant delusional attitude towards ourselves. The Court is reputed to have said that in the Court's eighteen eyes we medical men look like those busily engaged in plying a trade to the end that we may make as much money as possible, even though few of us may gather an annual intake equivalent to that of the Chief, or even of an Associate, Justice.

As citizens of a Democracy, we are called upon again, as so many times heretofore, to bow our heads in reverent acknowledgment of the realization that the United States Supreme Court speaks through its decisions not a varied language, but in one tongue only, and that it formulates and preannounces the vet unspoken civic and political and legal thought of the most obscure citizen, the lowliest rural justice of the peace, as well as the mightiest law-making body of the land. Hereafter the law will look upon organizations of medical men merely as those engaged in a trade for gain, and the courts will tell organized groups of physicians what they must, as well as what they must not, do in their corporate capacities. I believe the federal courts seemed to take care to find no individual physician or physicians by name guilty of any violation of the law in the recent inquisitions. Even courts are sometimes seemingly tactful and self-protective in their punitive pronouncements. A corporation possesses no real vitality, but only that fictional life given to it by the law that created it. But a human being is made by God and the court can speak more freely in dispraise of man's creation than of man. And what the law has given the law can take away, though he from whom it is taken may not always feel able to intone: Blessed be the law.

It is a belief probably of world-wide diffusion that a delusion is an invalid opinion symptomatic of insanity and that the deluded are generally confined in hospitals for the mentally sick. Man lives by his delusions. Were it not for their sustaining and comforting ministrations man would become weary of the struggle and cease to make effort. Man acquires knowledge, if he can, in the hope that with its help he may become able to validate some of his delusions and to correct others. Man is able to smile complacently when his opinions that he knows to be valid are attacked; but he fights with all his substance and with all of his might in defense of his doubts and of his ignorances.

Man's largest delusion hereabouts is that he is free, and the twin thought is that he and his fellow are equal—not in this or in that respect, but in all respects. No man has been free and no man can be free; and the most obvious fact in nature is inequality. And well that it is so. Were all men equal in quality, an intolerable stagnation, as dead as a painted sea, would prevail.

One of man's most dominant instinctive urges impels him to attempt to tyrannize over his fellow-mortal. The chief object of all just government is to set up civic machinery to protect the weak from the strong and the few from the many.

Man's world is not a world of reality, but it is occupied by his interpretations and by his misinterpretations. Chief amongst the latter is his belief that in this country he lives in a democracy which pronounces all men equal and guarantees him personal liberty. Our Democracy is so because it is so defined to us by ourselves and by our courts. It does not imply individual freedom, a condition never experienced by man, but it means that kind of government made possible for us by our elected representatives and allowed us by our courts. The court of ultimate authority is busy in projecting into the Constitution of the Founding Fathers and its many amendments their own personal and political and legal philosophies. Nothing human can be more variable than the so-called democratic form of government. If it is to survive it must possess that susceptibility to criticism and elasticity that will permit it to respond to the instincts and the moods and the whims and the passions and the intelligencies, if any, of the millions of people who inhabit our spacious country.

Roanoke Island and Jamestown and Valley Forge and Ticonderoga and Yorktown and the war upon Mexico and John Brown and Bull Run and Malvern Hill and Chancellorsville and Cold Har-

bor and Appomattox and the Carpet Baggers and the Ku Klux and the war upon Spain and that other World War-all these are Democracy. And so also are the ballot box and political corruption and bribery and ignorance and venality in authority. And the cabin in the forest and on the plains, and the churches and the colleges and the universities and the teachers and the pupils and the homes and the palaces-these, too, are parts of Democracy. The effort of government to lessen the ignorance of the masses and to protect the health of the people-that, again, is Democracy. That spirit that has called our young men into uniforms and that has beckoned them to go, armed and alert, into far distant places, in defense of man's highest aspirations-that is Democracy, say we not so, in its highest form?

The Declaration and the Constitution and the Statutes and the Decisions and the Decrees and the Presidential Proclamations are but words and phrases—symbols sanctified by sacrifice and given meaning by the longings of the people. For Democracy represents the hopeless hope of the people to live in uprightness and to cause justice to prevail between man and man. Democracy represents the best and the worst, with all the intermediate gradations, in man. Democracy will never fail; it will never succeed. Belief in it may always constitute man's pleasantest and most hopeless delusions.

But whether we be physicians or plumbers, soldiers or pacificists, mechanics or masters of art; if we be of a Democracy, we must adjust ourselves to its variableness, and expect its ways to be as unpredictable as the way of a maid with a man. For our Democracy represents the discordant unification of our national life—all that is best and all that is worst and all that is mediocre in the millions and millions of our different peoples. If we step with them, we may live; if we presume to array ourselves against them, we shall perish.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

MIGRAINE

EVERY DOCTOR'S patients have migraine. A good doctor¹ offers help in their management:

Migraine is a hereditary disease with its point of origin in the brain or the nerves regulating the blood supply of the brain. The physician must not expect to find the cause in the thorax or abdomen, and it is seldom helpful to examine the patient extensively and expensively. In migraine a storm of some kind seems to go down the vagus nerves to

The explosion in the brain can be set off in several ways. In some cases, the eating of certain foods is one cause. Other causes are emotion, fatigue, loss of sleep, worry, excitement and menstruation.

If the brain becomes sufficiently sensitive the explosion goes off without any recognizable stimulus. Often the patient is somewhat psychopathic and is using his or her brain badly or foolishly. In such cases the physician cannot hope to help the situation unless he can get the patient to rest, go on a vacation, get easier work, develop better habits of mental hygiene, get rid of annoyances, or solve some economic or sexual problem.

Treatment of the Attack—The one important achievement in the treatment of migraine made in recent years is in the use of ergotamine tartrate, or Gynergen, for the aborting of the attacks. It works well in eight out of ten cases. The drug comes in ampules containing 0.5 or 1 c.c. of solution, representing 0.25 and 0.5 mg., respectively, of the drug. The smaller dose is usually sufficient to bring relief in an hour or two. The drug should be injected hypodermically as soon as . . . a typical headache is on the way.

I have been prescribing Gynergen for several years now, and I have seen only one case in which it seemed advisable to stop it because of symptoms suggesting spasm in the vessels of the legs. In this case the patient was a most unusual person, an almost insane woman with an extremely unstable autonomic nervous system.

The books say in those cases in which one can suspect the night before that a headache will probably come in the morning, it may help to take a dose of castor oil or a saline laxative. I cannot vouch for the truth of the statement. When a warning comes perhaps an hour or two before the attack, the patient may ward off trouble by taking a double or triple dose of acetylsalicylic acid, sodium salicylate, antipyrin or acetanilid, perhaps with caffein or bromides or some barbiturate. To go to bed in a darkened room is a great help, and some persons can get help from putting the head under a cold shower. It is said that two cups of black coffee taken quickly will sometimes abort an attack, and caffein is a commonly used constituent of remedies for migraine.

Occasionally one can abort an attack by dissolving from two to six 1 mg. tablets of Gynergen under the tongue, but the use of the drug in this way is not to be recommended unless the patient regularly gets relief from it. If usually in the end he is forced to take the drug hypodermically, he should begin by taking it this way.

upset a normal digestive tract. Disease in the liver does not cause migraine.

^{1.} W. C. Alvarez, in Wisconsin M. J., 38: 451-456.

Sometimes patients are frightened and upset by the by-effects of Gynergen; they may feel shaky or numb, and they may start vomiting. The vomiting center can be quieted with barbiturates given preferably in the form of suppositories or intramuscular injections. Often, then, the patient will sleep off the attack.

Once nausea and vomiting have begun, it is useless to put any medicine into the stomach. Even if it stayed down it wouldn't be absorbed. Once nausea end vomiting have started, all medicines must be given either hypodermically or in the form of a rectal suppository.

INTRAVENOUS ALCOHOL IN POSTOPERA-TIVE ANALGESIA

That intravenous infusions of five and 10 per cent solutions of alcohol can be used for the relief of intractable pain has long been widely known. This paper presents the results obtained in the first 50 cases so treated at the Sylacauga Infirmary-Drummond Fraser Hospital. Many more cases have been treated to be presented in a later paper.

Most of the surgery has been done under spinal analgesia. Start the first infusion of alcohol as soon as the patient is returned to his bed. Routine orders are:

- 1. Prostigmine methyl sulfate solution 1:4000, one c.c. every two hours for eight doses, beginning immediately after the operation.
- 2. Five per cent glucose solution, 1000 c.c. twice daily.
- 3. Ten per cent alcohol in five per cent glucose solution, 500 c.c. as often as necessary.
- 4. Sodium phenobarbital gr. 3-5 as often as necessary for restlessness.
- 5. Tap water only for the first 48 hours, then surgical liquids.
 - 6. Mineral oil (heavy) oz. 1/2 twice daily.
- 7. Wangensteen suction if necessary for vomit-
 - 8. Catheterize only if necessary.

Any additional intravenous fluids, saline solutions, blood or oxygen by special order. Range in age 13-65 years.

Cases

Needed no alcohol after first 24 hours.... 13

only first 48 hours.... 29

first 72 hours....

Three patients were given morphine; one refused all infusions on the second day; two had pain in spite of adequate amounts of alcohol. In 94 per cent of the cases, adequate analgesia was secured by the use of alcohol.

Thirteen patients vomited during the first 24 hours; none vomited after the first 24 hours.

The patients received of a 10 per cent alcohol solution an average of less than 1600 c.c. per patient.

Only two patients complained of gas pains.

In general the alcohol should be given very slowly; alcohol and five per cent glucose solution simultaneously, using a Y connection, and allowing each to run at the rate of 60 drops a minute. If after 300 c.c. the patient is not obtaining proper relief, the speed is increased; about 500 c.c. are given, but if adequate relief is obtained with less the infusion is discontinued, and if this amount is not enough for relief we use up to 1000 c.c. at a time

INSURANCE MEDICINE

EDITOR'S NOTE:

The following article which appeared in the Proceedings of the Staff Meetings of the Mayo Clinic of October 7th, 1942, deals authoritatively with certain medico-legal aspects of coronary thrombosis, one of the most important problems in Insurance Medicine today. It is a valuable contribution to the literature on Insurance Medicine and will be of interest and value to all insurance examiners and home office officials. The article is published in Southern Medicine & Surgery with the kind permission of the author. Dr. F. A. Willius, and the Mayo Clinic Division of Publications

H. F. Starr, M.D., Editor Dept. of Insurance Medicine, Mcdicine & Surgery,

CERTAIN MEDICOLEGAL ASPECTS OF CORONARY THROMBOSIS

F. A. WILLIUS, M.D., M.S. IN MEDICINE
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THE QUESTION of the relationship of accidents of various kinds to the occurrence of coronary thrombosis is assuming great importance. This has resulted from two definite prevailing factors, namely, (1) the increasing incidence of coronary thrombosis and (2) the establishment of certain questionable legal precedents relating to this question. The problem is concerned chiefly in relation to insurance medicine, to the various workmen's compensation acts and to private litigation in cases of injury. In insurance medicine, litigation usually is limited to policies including the double indemnity clause for accidental death; in the case of the two last named classifications, no limitation of circumstances appears to prevail. In my presentation of this problem I wish it clearly understood that my remarks are entirely nonpartisan. I am not defending either the plaintiff or the defendant, but, rather, impartially considering the facts in the case in respect to all phases of scientific knowledge and

^{1,} F. H. Saddick, S. & F. H. Craddock, Jr., Sylacauga, Ala., in II. Med. Assn. Ala., Nov.

not in respect to various legal interpretations obviously influenced by a conditioned set of circumstances.

The initial premise in this consideration rests on the knowledge that coronary thrombosis does not occur when the coronary arteries are normal. Thus, the occurrence of coronary thrombosis must presuppose the existence of coronary arteriosclerosis. Much of the misunderstanding in regard to coronary thrombosis is based on this question, and it is particularly applicable to those cases in which apparently significant symptoms do not occur prior to arterial occlusion. Medical experience has accumulated undeniable evidence testifying to this fact, based on careful correlation of clinical signs and disclosures at necropsy.

The fact cannot be denied that arteriosclerosis, varying in degree and situation is a universal concomitant factor in the process of aging. Its progressive tendency is admitted and countless instances of its premature occurrence are common knowledge. Therefore, the precipitation of sudden closure of a coronary artery, already conditioned by a gradually progressive and definitely preëxisting pathologic process cannot justly be related to certain acts which may occasion temporary increase of work for the heart. Identical strains on the past did not eventuate in this tragedy. This contention is further supported by the fact that coronary thrombosis occurs with greater frequency among persons engaged in sedentary occupations than among those performing manual tasks. In fact, many instances of coronary thrombosis occur when the patient is at rest and even asleep.

An argument frequently is advanced to the effect that strenuous exercise, conceivably evaluated as designating an injury, is capable of damaging the normal heart. This belief is utterly without foundation. All available evidence is contrary to this viewpoint and can be simply proved by subjecting a young normal person to extremely strenuous and sustained exercise, only to find that the various voluntary muscles of the body surrender to the load while the heart continues to carry its burden in an amazingly efficient manner. The contention that the normal heart can be strained by exercise lacks pathologic confirmation, an admission which is made even by the protagonists of this belief. There remains little doubt that many prevailing court decisions governing so-called injuries in the ocurrence of coronary thrombosis are based on political prejuice rather than on scientific facts. Certain medical authors imply this fact in the following words. "In harmony with the liberal interpretation of the compensation laws, we must assume for practical purposes that strain of the healthy heart is possible." Why should the medical profession abet an erroneous concept in order

to harmonize with legal interpretations? Is the physician a party to this injustice and should he allow his judgment to be warped by any consideration? It is my belief that the medical profession must interest itself in this problem and properly advise the lawmakers in regard to the true issues involved. There is little doubt that certain medical testimony already recorded has been erroneous, vet has been accepted as the basis for legal precedent. Such testimony must be reviewed and corrected.

I wish to cite further: "In relation to heart strain 'accident' in the meaning of the compensation law is held to include some unexpected or unforeseen occurrence of physical or physiologic nature arising out of and in the course of a workman's employment, which produces a disabling heart condition, aggravates a preëxisting heart condition or causes sudden death." According to all interpretations of justice, such an assumption would necessitate the irrevocable proof that the person in question had not engaged in comparable activities within a reasonable period of time antedating the coronary occlusion. The communication stated further: "From a compensation standpoint, the previous existence of symptomless lesions predisposing to the development of heart strain is immaterial. As an accidental development the liability for the sudden disability falls upon the acute stress or the immediate exciting cause." This provision, existent in many decisions, merits little consideration except to emphasize again their inadequacies and injustices. A complete reversal of philosophy in this problem is imperative, whereby the burden of proof is placed on the plaintiff rather than on the defendant.

I do not wish to imply that these legal fallacies are universal, for they are not, but the practice of genteel extortion has become so widespread as to constitute an alarming scheme of sanctioned fraudulence. One state has acted wisely in adopting the following statute:2 "Personal injury shall not include diseases except where the disease is the natural and direct result of a traumatic injury by accident, nor shall they include the results of a preëxisting disease" This would serve well for an equitable pattern to be used under all circumstances in which the question of coronary thrombosis in respect to accident occurs. Furthermore, interpretation of the word "accident" demands clarification and limitation. According to Webster, an accident consists of "an event that takes place without one's foresight or expectation: an undesigned, sudden, and unexpected event." Therefore, the pursuance of a person's usual occu-

Kahn, M. H., and Kahn, Samuel: Heart strain in its industrial asperts. Am. Heart, J., 3: 546-559. (June), 1628.
 Gleason, Gay: Accidents and heart disease from the insurance convenues in int. of view. Jon. Heart J., 3: 535-54. (June).

pation, even though it be fraught with physical stresses and strains, certainly does not involve an undesigned, sudden and unexpected event. The occurrence of coronary thrombosis is usually an unexpected event, but as already emphasized, it is the climax of a pathologic process which has been present for a considerable period.

Another important aspect of this problem concerns the large number of patients who recover from coronary thrombosis. In many cases, remarkable degrees of recovery occur under proper treatment and management, and many patients ultimately are restored to fairly active participation in life. However, the frustrations consequent to prolonged litigation with its uncertain outcome and contingent expense frequently conspire to produce a protracted and unnecessary invalidism when a patient is otherwise well on the road to health. The tragedy of traumatic neurosis is well known. The heart, an organ of virtually ceaseless activity, is unusually susceptible to neurogenic influences, both when impaired and unimpaired. It responds to overstimulation and augmentation of function; thus tachycardia and, frequently, extrasystolic arrhythmia occur. These result in "heart consciousness," an awesome sensation, particularly to the patient who has survived a serious cardiac attack. This initiates a host of deleterious emotions, such as fear, anxiety, uncertainty, and so forth, themselves capable of perpetuating the neurosis.

The prompt and satisfactory (from the patient's standpoint) culmination of compensation litigation usually results in abolition of the neurosis. Under paradoxical conditions, however, the results are different. Many of the neuroses would never occur if medicolegal considerations were not instituted.

It is my conviction that the entire question of the medicolegal aspects of coronary thrombosis requires careful review with the intent of a mutual understanding between physicians well grounded in diseases of the heart, attorneys. legislators and others concerned in formulating statutes. Action should not be based on personal opinion, but rather, on scientific fact which now is supported by a tremendous medical experience developed by clinical observations, studies at necropsy and comprehensive experimental studies. Emotional reactions based on pity. discrimination favoring either the employed or the employee, selfish political motives and so forth have no place in a problem as vital as the one under consideration.

EPINEPHRINE AND EPHEDRINE ANALOGUES (W. T. Vaughan, et al., Rehmond, in Il J.ab., & Clin Med., Dec.)

Epinephrine is effective in shrinking ... argescent nasal mucosa. In fact, it is too effective, so secondary vasodilation may ensue. One to three per cent ephedrine produces local decongestion, usually adequate, and not enough to

cause anoxia. Neosynephrin is effective in much lower concentration (0.25 per cent). Although benzedrine produces undesirable central stimulation, its base being volatile gives it value as an inhalant in nasal allergy.

Neosynephrin exerts little action when taken internally, except in large doses. It is about as effective as ephedrine in relaxing bronchospasm, but for adequate dosage it must be given hypodermically and is therefore inferior to ephedrine, although it has a slight superiority in that it exerts less nervous stimulation. Benzedrine dilates the bronchi but not markedly.

Paredrine exerts little action on the bronchi or gastrointestinal tract. Its greatest effectiveness is as a mydriatic. Prophadrine exerts less central stimulation than ephedrine or benzedrine, has about the same pressor activity as ephedrine, and is about as effective when applied to the nasal mucosa. It may be given by mouth in the same dose or double the dose of ephedrine. Propadrine is acceptable and useful with patients who find ephedrine too stim-

HOSPITALS

R. B. DAVIS, M.D., Editor, Greensboro, N. C.

HOW FAR MUST WE GO

To those who have been operating hospitals for years it is obvious that a drastic change in the hospital world is taking place. This change is not altogether welcome to those who have spent their lives trying to alleviate the ills of sick humanity. The desire and the demand of the sick man have not changed. He still wants relief and recovery as quickly as possible, but the system through which this is to be furnished constitutes an increasingly difficult problem.

We all know that the best food is now going to our soldiers, and while this is as we think it should be, it is sometimes hard to explain to the patients why they do not have a piece of tender steak or why they cannot have as many fresh eggs or as much good country butter as they once had. Fresh vegetables are also becoming increasingly harder to obtain. We hope, however, that the propaganda campaign for more foodstuffs and victory gardens will relieve, to some extent, this shortage during the coming year. Everyone recognizes the fact that it takes plenty of good food to restore the sick man to health.

The supply of medicines and supplies for operating a hospital are also diminishing. We must learn to use less gauze, less catgut, less alcohol, and in general, be down-right stingy with supplies. Here the hospital personnel, particularly the doctors and nurses, can help a great deal. The average surgeon is a spendthrift in the operating room. The excuse is that they feel a great responsibility for the welfare of the patient and that saving catgut, gauze and instruments is of such minor importance that it is hardly to be considered. However, they could do better if they realized just how scarce

materials are becoming. It would be far better to economize now rather than to go without later. We must gratefully and willingly deny ourselves and our civilian patients supplies that are needed for our sick and wounded soldiers. We must not fail them since they are giving their all, and just as much for us as for themselves.

To maintain adequate hospital personnel, from superintendent to maid, is becoming almost impossible. A large number of graduate nurses are seeking an opportunity to fight shoulder-to-shoulder with the men to preserve our liberty. This spirit is commendable, yet it brings up problems of nursing service that cannot be easily overcome. This service is now being rendered in most hospitals by old and young, educated and uneducated, trained and untrained, those who do and those who do not care, and those who have a multitude of other interests. It takes the patience of Job and the wisdom of Solomon to furnish a nursing service now even half as good as we would like it to be. Orderlies and maids are taking jobs with the Government at salaries prohibitive to the hospital. Hospitals supported largely from revenue obtained from the non-producing sick civilian will never be able to compete in salaries with the New Deal.

How far, therefore, shall we go in compromising in operating our hospitals? Of necessity we must be satisfied with less efficiency, but only temporarily. We must not allow our standards to be dragged down, but neither can we allow our financial affairs to go on the rocks. It should be possible, in this period of emergency, for us to call upon the citizenship for their cooperation. The patients, also, must be influenced quickly to be satisfied without the superfluities which hospitals have been providing for the past quarter century. We all must work hard in order to maintain the good-will of our community. We must complain less and sacrifice more. We must not cease constructive criticism, but we must curb our minds to the nth degree over destructive criticism. We must not destroy faith in one another. Therefore, we must not go further into revolutionizing hospital services than is absolutely necessary to tide us over this great emergency. Let the hospital still represent to the people Faith, Hope and Charity. If we will do this, we shall come triumphant through these perilous times with a glorious victory. Let us not fail.

PEDICULOSIS CAPITIS TREATMENT AMONG SCHOOL CHILDREN

(J. A. Murphy, Washington, in Son. Med. Jl., Jan.)

Derris powder with 3 to 5 per cent rotenone content left in the hair and renewed once a week for an average of three treatments kills all living lice, and leaves only the empty shells.

Eighty per cent of the contacts living in the home who reported for examination were found to have pediculosis. (The infestation may be a little lower than this since infested contacts would be more likely to report for examination.)

Examination of all members of the household and treatment of all found infested is essential in order to prevent reinfestation.

Absence from school on account of pediculosis can be reduced from weeks or months to a few hours if pupils and home contacts are simultaneously treated and pupils allowed to attend school during the treatment period.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

VISUAL PHOBIAS

The writer has observed that the majority of patients who apply for an eye examination have a morbid fear of injury to their eyes by routine use, or of losing useful vision, or of becoming blind. This fear seems to be ingrained in the minds of all classes of people from middle childhood to the close of life. This viewpoint has markedly increased within the past decade, and now has become a medical problem for the oculist to cope with. A careful history, a thorough examination and logical counsel will serve to dispel such fear from the minds of the majority of these patients, and they in turn will serve as good emissaries in the community.

What has produced these phobias? It is apparent that too much indigestible material, in regard to the eyes, has been fed to the public. The dangers of certain eve symptoms have probably been too greatly emphasized via the medical lay writers, other sources of information, by certain advertisements that are currently in the papers, and over the radio. No one will deny that the national campaign giving information on glaucoma, in particular, has been of distinct service to humanity in helping to find and treat this disease which is the cause of 25 per cent of all blindness. Neither can one do otherwise than condemn the blatant advertisements and lectures on the seriousness of socalled eyestrain and its so-called complications and dangers. Through these latter sources great stress is placed upon the need for glasses as a cure for all eve ills, and for a frequent examination of the eyes. This viewpoint has such a hold upon the public mind that fully half the persons who apply for an eye examination, prior to the age of pres-. byopia, have not a single clinical finding attributable to disease or dysfunction of the eyes per se. It is granted that many of these patients, as will be found among many others, have systemic conditions which are responsible for the eye symptoms. These must be ferretted out and treated in

an attempt to stabilize the whole body, whether it suffers from disease, excessive and protracted physical and nervous fatigue, errors of diet, lack of sleep and recreation, or emotional instability. When and if these conditions are helped or corrected most of the common eye problems, certain specific diseases of the eyes excepted, will be alleviated and without the use of glasses.

Today too many people are wearing glasses or some other so-called aid to the comfort and stabilization of vision, too many are using various drugs locally applied to the eyes, and far too many are obsessed with the idea that these things are a vital necessity for the preservation of vision. The pendulum of the essentials and common sense in this branch of medicine has been allowed to swing too far to the left. It is binding upon the oculists of this country to correct the drift.

SURGERY

GEO. H. BUNCH, M. D., Editor, Columbia, S. C.

JAPAN DELIBERATELY INTRODUCED LEPROSY INTO THE PHILIPPINES

THE LOATHESOMENESS of leprosy and the morbid fear of contracting the disease from contact with its victims has been noted throughout recorded history. Abhorred and shunned by his fellowman, forced by law to ring a bell and to shout "unclean" at the approach of others, the leper has through the centuries been the innocent victim of the ignorance of his fellows. Perhaps the most interesting single day in the writer's professional life was one spent about fifteen years ago at the United States Public Health leprosorium where the lepers of the nation are segregated at Carville, La. Most of the several hundred cases were chronic and the patients apparently fairly happy in a hygienic home and under medical care provided at government expense.

Except for the amputation of a sloughing anesthetic digit or an extremity in neglected late leprosy, surgery plays a very minor role in the treatment of the disease.

Published in 1937, long before the beginning of World War II, "An American Doctor's Odyssey," by Dr. V. G. Heiser, official representative of the Rockefeller Foundation, says:

"A very interesting story is told in connection with the entrance of leprosy into the Philippines. One of my predecessors, Major E. C. Carter, had put in print a story to the effect that the Japanese, annoyed by the efforts of the Spanish Catholic Church to implant Christianity in Japan, in retaliation, loaded 134 lepers on a ship and despatch-

ed them to Manila, saying, 'If it is converts you want, begin with these.'

"Japan resented Major Carter's statement so deeply that the United States was requested to make a public withdrawal and an apology for this allegedly outlandish charge. It devolved upon me to make a defense. Accordingly, I had the royal documents at Seville searched. In Section IV, drawer II. bundle XXIII. it was recorded that Philip IV. King of Spain, acknowledged the receipt of a communication from the Captain General of the Philippine Islands, on June 8th, 1632, in which His Majesty had been informed that 134 'converted Christians' who had been sent over by the Emperor of Japan, had arrived in Manila Bay. The Most Christian King had directed that the 'converted Christians' be welcomed with a parade, and that, in addition to the 500 reales already set aside for their reception, 200 more be expended for their maintenance. In that same year 130 of them were admitted to San Lazaro Hospital.

"These facts were submitted to the Japanese government, which then reported they had already confirmed the story from their own records and withdrew the demand for retraction. They were, however, of the opinion that these lepers had been deported from Japan for sanitary reasons, but admitted cautiously that there might have been some lepers among the Japanese Christians who were banished when the feudal system had become dominant in the Empire."

Dr. Heiser is in position to speak with authority on public health matters. We quote him at length because the incident he describes is significant of the ruthlessness of Japanese character in imposing, through pique, leprosy upon a friendly innocent kindred people.

> "Lord God of hosts be with us yet, Lest we forget—lest we forget."

ANNOUNCEMENT

Refresher Course

in

Laryngology, Rhinology and Otology

March 22nd-27th, 1943

To meet the needs of ear, nose and throat specialists who, under existing conditions, are able to devote only a brief period to postgraduate review study, this didactic and clinical course has been arranged. Registration is limited. The fee for the complete course is \$50.00. In letter requesting application for registration, state school and year of graduation, also details concerning specialty training and experience.

Address Department of Oto-Laryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chi-

GENERAL PRACTICE

WALTER J. LACKEY, M.D., Editor, Fallston, N. C.

GALL BLADDER DISEASE

THE CONCEPT of gallbladder disease expressed herein has been arrived at through the efforts of the members of a combined Clinic for the study and treatment of gallbladder disease established at the New York Post-Graduate Hospital in 1929.¹

Gallbladder disease is progressive. Whatever the initiating process, time adds factors such as stones, infection, obstruction and obliteration.

Treatment of the organic lesion such as removal of stones and even the bladder may not eradicate the initiating factor.

Patients may well be divided into three groups:

1. Those with disorders resulting in a disturb-

- 1. Those with disorders resulting in a disturbance of the filling and emptying mechanism.
- 2. Those with disorders resulting in interference with the concentrating mechanism.
- 3. Those with diseases of the blood and metabolism which manifest themselves in disorders in the biliary tract.

The consideration of each group enables us to compare the various etiological factors as regards mechanism, treatment and prognosis. The prognosis for complete cure of the patient's symptoms and eradication of the disease process is reduced as time goes on.

Cholecystectomy will eradicate the causal mechanism in cases due to mechanical obstruction. Neglect to remove the gallbladder will result in a continuation of the process. Failure to relieve symptoms by medical means as a rule induces early operation.

In our Clinic two-thirds of all patients with gallbladder disease are believed to have had a disturbance in the filling and emptying mechanism in the primary stage; the majority of these had dyssynergia.

The site of the primary dysfunction in hypertonic dyssynergia lies at the sphincter of Oddi. Relief of the pain instantly after the inhalation of amyl nitrite is usually a characteristic feature of this type of gallbladder disease. This type of patient requires medical treatment directed toward the cause of spasm of the sphincter of Oddi.

Failure for such a patient to receive proper medical treatment leads to pathological bile stasis in the gallbladder, with sedimentation, crystallization and the formation of stones. It is customary to advise cholecystectomy in this stage of hypertonic

1. T. H. Russell, R. F. Carter & E. Oppenheim, in Bul. N. Y. Acad. of Med., Feb.

dyssynergia with stones, not with the intention of removing the cause of the disease process and of curing the symptoms, but to prevent the impaction of a stone in the cystic duct. Such patients are not cured by cholecystectomy. Infection is occasionally superimposed on one of the stages of hypertonic dyssynergia. Ultimately the infection extends from the common duct up to the small bile canaliculi and then to the liver parenchyma itself—biliary cirrhosis.

In hypotonic dyssynergia the site of the dysfunction lies in the gallbladder wall-the "lazy gallbladder." The laboratory shows normal liver function and usually hypercholesterolemia. The condition responds well to medical treatment. Olive oil should be given between meals to stimulate the gallbladder and thus aid in its evacuation. All fats should not be eliminated from the diet. In hypercholesterolemia reduction of the cholesterol content of the diet is indicated. In those with hypo- or achlorhydria dilute HCl with meals is a routine. Correction of endocrine imbalances, such as hypothyroidism and obesity, is indicated as part of the general treatment. Stone-formation results if these patients are not treated successfully, and infection of an obstructed gallbladder produces empyema of this organ.

Of disorders affecting the concentrating function of the gallbladder the most common is infectious inflammation. Infectious cholecystitis is characterized by low-grade pain for three to seven days, tenderness and rigidity in the right upper quadrant during an acute attack, sub-clinical jaundice, crystalline sediment of calcium bilirubinate on duodenal drainage and positive culture of the specific organisms in the duodenal bile.

Acute fulminating cholecystitis occurs in some patients prior to stone-formation. If the patient does not seek advice, the next step is impaction of a stone in the cystic duct, with empyema of the gallbladder following as there is infection already present. Operation should be performed during the acute stage of infection in this group, preferably between the second and fourth days. Under favorable circumstances, a cholecystectomy; unfavorable, a cholecystostomy. A cholecystostomy is not a curative procedure.

The union of the common and pancreatic ducts above the sphincter of Oddi allows reflux of infected bile into the pancreas to produce acute pancreatitis.

Certain disorders of the blood and metabolism manifest themselves in disturbances of gallbladder function; among these hemolytic jaundice and a blood dyscrasia in which there is an increased fragility of red blood cells. Pregnancy and obesity also favor the development of gallbladder disease. Blood and bile of pregnant women have a higher concentration of cholesterol than normal and redispose to the precipitation of crystals and the formation of stones. In cases of obesity, the basic disorder as regards the gallbladder is an upset in the cholesterol metabolism. Most obese individuals, however, with gallbladder disturbance tend toward hybronic dyssynergia.

INSECTS, TICKS, AND WORMS IN HUMAN MEDICINE

There may be harmless mosquitoes, but students of these insects look with suspicion upon all of them. Of some 1,400 species, we consider only two, and they are of immediate importance—the malarial mosquito (Anopheles) and the yellow fever mosquito (Aedes). These are almost everywhere, even far into the arctic regions.

Of malaria there are two cycles, one in the human host and the other in the mosquito. The parasites are active and can be transmitted to the human host as long as the mosquito lives. Only the female mosquito transmits malaria.

In time a certain resistance to malarial infection develops, but the protection is never complete, and a more or less chronic invalidism results. Several groups of parasites, developing at different periods, may be in active operation at the same time in the same patient, so that a chill may come every day, or even twice a day. It is possible for three forms of malaria to exist in the same person at the same time. The microscope will clear the diagnosis.

Treatment is usually effective, but there is a question among malariologists as to the advisability of a complete cure, if the patient must remain in the infected region, as all immunity is then lost. Generally, now, the treatment is carried to the point of reducing attacks to a minimum, but no effort at complete destruction of all the parasites is made.

Male mosquitoes do not bite, as they have no equipment for penetrating the skin. The female mosquitoes saw through the skin with neatness and speed. The males are readily recognized by the plumose antennae (beards), which are large and readily seen with the naked eye. Aedes mosquitoes are not so readily differentiated, but can be easily recognized by those who make some effort at learning their characteristics.

The mosquitoes that cause yellow fever (Aedes) also transmit the virus of dengue. Various forms of filariae are also transmitted by mosquitoes, and such cases are quite common in many tropical regions.

If flies bite, they are not house flies. There are many other varieties that do bite, some looking almost exactly like house flies.

Small flies are not young flies, but a small variety of fully developed ones. Biting flies kill thousands of cattle annually, ruin many hides by numerous perforations, caused by the exit of larval forms. Some deposit eggs in the noses of animals, or even of men and cause great distress or death.

Most animals have fly larvae in the stomach or intestinal tract, and many flies depend upon this protection for a part of their life cycle. The bot flies are pests to almost all domestic animals, sometimes disastrously so. The tabanid (horse) flies will drive animals frantic, and kill stock by the great amount of blood drawn. Their bites are painful and may transmit anthrax.

The transmission of typhoid fever and intestinal infections to man by house or other flies is well known. They have been accused of transmitting poliomyelitis, and this now seems to have been confirmed. In Africa, the tsetse flies have depopulated large areas, and have threatened all human life in other localities through sleeping sickness.

Flies are practically everywhere, and if it were not for numerous insects, birds, fish, and reptile enemies, no human life could exist on account of these and other insects. Flies can be largely controlled by proper sanitary methods, which consist of preventing their breeding and eliminating their food supplies. In cities, it is possible to almost eliminate flies by screening, removal of organic matter (garbage, manure, lawn clippings, etc.), and by preventing their access to food. Poisoning, trapping, adhesive fly paper assist, greatest dependence must be upon prevention. For rural methods of fly prevention, a number of agricultural bulletins are available, with explicit directions.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

HEMATURIA

BLOOD frequently appears in the urine, but its importance is often underestimated. While it may be the only, or the most prominent symptom, the presence of other symptoms, such as pain, burning and frequency, may aid us in finding the underlying cause.

The amount of blood may be much or little. In general, if the blood is initial and bright, the source will be found in the anterior urethra; if it is ter-

^{1.} G. A. Skinner, Berkeley, Calif., in Clin. Med., Nov.

^{1.} Cahill, G. F.: Hematuria: Its Clinical Significance. Jour. Und., 47: March, 1942.

minal it emanates from the posterior urethra or bladder; if total from the bladder, ureter or kid-

ney.

February, 1943

To explain the source or cause of hematuria with certainty, a thorough urological investigation is necessary. Cahill, who points out that practically every disease of the urinary tract may at some time in its course be accompanied by blood in the urine, has reviewed 14,000 urological hospital admissions and tabulated the conditions giving rise to hematuria, as follows:

I. Hematuria in general diseases

A. Acute fevers especially in the severe malaria, acute articular fever, scarlet fever, tonsillitis, etc.

B. Chronic infections

Endocarditis (renal infarction)

Arteriosclerosis

Purpura

Syphilis

C. Diseases of unknown etiology

Hodgkin's

Leukemias

Periarteritis nodosa

D. Vitamin deficiencies

Scurvy

Liver deficiencies

E. Inborn anomalies
Hemophilia

II. Hematuria from causes within the urinary tract.

A. Renal

- 1. Congenital anomalies (polycystic disease)
- 2. Injuries
- 3. Motility
- 4. Calculi or crystals
- 5. Infections
- (a) Acute: pyelitis, pyelonephritis
 - (b) Chronic: pyelonephritis, nephrosis
 - (c) Specific: tuberculosis
- 6. Nephritis
- 7. Parasitis diseases as filaria
- 8. Tumors: capsular, parenchymal, pelvic
- Drugs: turpentine, phenol, cantharides, methanemine, salicylates, sulphanol, barbiturates, organic acids as mandelic, sulfanilamide and other derivatives
- Local vascular changes
- 11. Unknown origin
- B. Ureteric causes
 - 1. Trauma
 - 2. Calculi
 - 3. Infection, ureteritis cystica, stricture
 - 4. Tumors

- C. Vesical causes
 - 1. Malformation
 - 2. Trauma
 - 3. Calculus or foreign body
 - 4. Infections, including prostatic and urachal
 - 5. Parasitic as bilharzia
 - 6. Tumors
 - 7. Epithelial changes as leucoplakia
- D. Urethral causes
 - 1. Malformations
 - 2. Injuries
 - 3. Calculus or foregin body
 - 4. Infections
 - (a) Acute urethritis, chancre, chancroid
 - (b) Chronic urethritis, stricture
 - 5. Tumor
 - 6. Nevus

III. From disease invading the urinary tract

Acute appendicitis

Acute or chronic salpingitis

Acute or chronic diverticulitis of the colon

Intestinal or female genital tuberculosis Abdominal or pelvic tumors

Extrarenal or extraureteric tumors

Perforations of gastric or duodenal ulcers

Perforations of aneurysms

Perforations from osteomyelitis.

Analysis of Cahill's data shows that errors in development of the progenital system are frequent, accounting for 20 per cent of admission to the projectal service. Where developmental anomalies brought about the admission of the patient, the occurrence of hematuria was noted. The hematuria was not due to the error of development, but "to the frequency in which the pathological condition develops in maldeveloped organs, as compared to normal organs."

During a ten-year period, there were 100 cases of unascended and fused kidneys of which 7 per cent had associated hematuria. In nephroptosis only 1 per cent of cases show hematuria, 3 per cent in cases of hydronephrosis, whereas polycystic renal disease has the high incidence of 42.5 per cent.

In urinary-tract injuries, hematuria proved to be the directing and the most frequent symptom. In bladder injuries hematuria occurred in all cases.

"Calculus of the urinary tract is now the most frequent single pathological condition in urology in New York," hence the incidence of hematuria from that cause is large. "Of exceeding diagnostic importance is the finding of microscopic blood in the urine in over 97 per cent of cases in which the urine was voided with or shortly after renal colic."

Hematuria often occurs in acute infections of the urinary tract. Of 62 cases of nephritis 45 per cent had hematuria; but this proportion was, for reasons given, considered to be misleadingly high.

Almost 40 per cent of patients admitted with hematuria had a neoplasm involving the urinary tract. Intermittent hematuria was characteristic of hypernephroma and papillary tumor of the pelvis; continuous bleeding of epidermoid tumors of the pelvis and with solid carcinoma of the kidney.

Benign prostatic hypertrophy in which hematuria though relatively small in percentage shows high in total numbers. Complete urinary retention caused by large blood clots was not infrequent among the large vascular prostatic hypertrophies. Carcinoma of the prostate had greater incidence than benign prostates. Sarcomas of both prostate and bladder, though few, caused rather profuse hematuria.

Persistent hematuria is often due to a cause, other than the most obvious, which may be found by search. Cahill instances a case in which the hematuria was accredited to leukemia but ultimately proved to be due to a papilloma of the bladder.

One patient who developed hematuria several years after nephrectomy, bled only when upright and active. In another case, cessation of bleeding was achieved after administration of vitamin K. These latter two cases were among the 96 cases discharged with a diagnosis of hematuria, causation unknown.

DENTISTRY

J. H. GUION, D. D. S., Editor, Charlotte, N. C.

INFLUENCE OF LOSS OF PERMANENT FIRST MOLAR ON POSITION OF ERUPTION OF SECOND PREMOLAR

An examination was made of boys and girls age 15-19 years inclusive, pupils of the vocational high schools in the City of New York, who had lost one or more of their permanent first molar teeth and in whom the space left by the extraction was subsequently closed by the shifting of the adjacent teeth. Those patients in whom the space was not entirely closed were not included in this survey.

All of the extracted first molar space had been closed in all of the cases examined. The amount of distal shifting of the premolars, the amount of mesial shifting of the second molars, as well as the amount of space between the premolars themselves,

showed a direct relationship to the age of the patient at the time of the extraction.

Cases in which the mandibular permanent first molar was extracted at ages 7 and 8 years showed few, with the second premolars less than 10, mms. in distal position, and with the space between the premolars to be less than 6 mms. At ages 9 and 10 years, the cases seemed to be equally divided, as to those in which the second premolars had shifted more than 10 mms, and those which showed less shifting and space between the premolars. At ages 11 and 12 years, the majority of cases showed considerably less than 10 mms, distal shifting of second premolars, or 6 mms. space between the premolars themselves. At ages 13 and 14 years all cases showed less than 10 mms. distal shifting of the second premolars and less than 6 mms. space between the premolars.

It would seem that if the first molar is extracted before the premolars erupt the molar space will close by extreme distal shifting of the premolars but only moderate mesial shifting of the second molar. If the mandibular first molar is extracted after the premolars erupt, the space is closed more by the mesial shifting of the second molars than by distal shifting of the premolars.

When the space left by the extraction of *maxillary* first inolar teeth was entirely eliminated, there was no relationship between the amount of distal shifting of the premolar teeth and the age of the child when the first molar extraction occurred. There was no increase in space shown between the first and second premolars in the maxilla.

In the *mandible*, the amount of distal shifting of the second premolar teeth and the amount of space between the premolars shows a direct correlation to the age of the child when the first molar was extracted, in spite of the fact that the space left by the extraction of the first molars was closed in all cases. The younger the child the greater the amount of space found between the first and second premolar teeth.

PAROTID DUCT OBSTRUCTION WITHOUT CALCULUS

(Louis Pelner, Brooklyn, in Amer. Jl. Dig. Dis., Dec.)

An obvious effect of a powerful parasympathetic stimulant is salivation. One wonders why advantage has to been taken of this fact in therapy, e.g., in salivary-duct obstructions. While salivary-duct stone is relatively uncommon, this does not hold for salivary-duct obstruction without stone.

The clinical picture: A recurrent swelling of the parotid gland lasted for many days, becoming extremely large following the ingestion of food, and terminating with the expulsion from the duct of plugs of fibrin and a profuse flow of saliva.

An English investigator says a recurrent subacute parotitis without the presence of salivary calculi is invariably due to a mild degree of infection of the parotid ducts. At

^{1.} J. A. Salzmann, New York, in Jl. Dental Research, Oct.

times plugs of mucus and casts of the main duct were obtained by parotid massage and catheterization.

The duct of the parotid discharges into the mouth opposite the second molar tooth.

A recurrent swelling of the parotid with pain just before or during mealtime, and a discharge of a thick mucoid secretion into the mouth often having a disagreeable taste are the diagnostic symptoms.

The condition is to be differentiated from glandular swellings of mumps, cysts, syphilis, cancer, actinomycosis, adenitis from infected tonsils and teeth, post-operative

parotitis, and Mickulicz's disease.

Bimanual examination will discover a calculus.

One injection of prostigmine methysulphate, 1 c.c. of 1-2000 sol., has been curative in two cases. In one case cure was effected by repeating the dose after 2 days. In one case cure was spontaneous without medication while awaiting treatment.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., Editor, Greenville, N. C.

MILESTONES IN NORTH CAROLINA PUBLIC HEALTH

(Continued from last month)

1935—In this year an important development in Public Health work was the experimental course put on in the school year of 1934-1935 at the University of North Carolina, under the auspices of the Public Health Administration, of a course of instruction designed to prepare physicians for positions as health officers.

During this year following the enactment of the National Social Security law, plans were worked out for an expansion of the work of all the divisions of the State Board of Health, through financial aid coming through the Children's Bureau and the United States Public Health Service at Washington.

A Division of Industrial Hygiene was tentatively established in September of this year. To begin the work of this division and to prepare the program for enlargement to its full scope, Dr. H. F. Easom of the State Sanatorium for Tuberculosis Medical Staff was selected as the Director of the Division. Mr. M. F. Trice, formerly of the Division of Sanitary Engineering of the State Board of Health, was made engineer of this new division.

1936—An event of great importance for the first half of this year was the establishment of a regular course in Public Health at Chapel Hill with Dr. Milton J. Rosenau as Director of the Department, which is an integral part of the School of Medicine of the University of North Carolina.

On April 1st of this year, the State Board of Health established a service for crippled children. This followed the approval in late March of the North Carolina Plan for Crippled Children, prepared by the State Board of Health and submitted to the United States Children's Bureau. This plan was a prerequisite of the Children's Bureau toward participation by the state in the distribution of Social Security appropriations for this purpose. Dr. G. M. Cooper of the Division of Preventive Medicine was designated as Medical Director of this service and Mr. J. T. Barnes was employed by the Board as State Supervisor in charge of administrative duties of this service.

1937-Dr. T. C. Worth joined the staff of the Division of Preventive Medicine on September 21st, 1936, and served until April 15th, 1937, in the capacity of assistant to Dr. Cooper. Upon Dr. Worth's departure on April 15th to continue his postgraduate education in Boston, Dr. Roy Norton, who had been with the Division of County Health Work for a year, and who was formerly health officer of Rocky Mount, succeeded Dr. Worth. Miss Mabel Patton, a highly qualified nurse, joined the staff of the Division of Preventive Medicine as a consultant nurse representing the Children's Bureau. Dr. W. J. Hughes, a colored physician whose services for work in the health education field in the Department of County Health Work was made possible through contribution by the Rosenwald Fund and who joined the staff on January 1st, 1936, was able to make substantial progress in his work with the colored population of the state. Mr. W. H. Richardson, an experienced newspaperman who was secretary to Governor Morrison for his four years in the Governor's office, joined the Administrative Staff in the department exclusively conducted by the State Health Officer. Dr. G. M. Leiby, who had been Assistant District Health Officer in the Haywood-Jackson-Swain District with headquarters at Bryson City, joined the sub-staff of the Department of Epidemiology in the fall of 1936. Dr. F. S. Fellows of the United States Public Health Service was lent to the State Board of Health as a consultant in the Department of Epidemiology in the field of venereal disease control. Miss Margaret Thompson, who holds a master's degree in home economics and nutrition work from the University of Iowa, joined the sub-staff of the Division of Preventive Medicine in October. 1937. On Mrch 15th, 1937, Miss Frances R. Pratt, a nurse specially trained under the auspices of the State Maternal Health League, joined the sub-staff of the Division of Preventive Medicine. Her work has been to organize through the medical profession and the local health officers on a voluntary basis a system of contraceptive control work when based on medical needs.

During the year a central general filing system was put into effect under the direct supervision of the State Health Officer and the Administrative Division of the Board of Health. This is proving to be a very satisfactory and progressive step.

Malaria was made a reportable disease and a malaria inspection and control unit was established in the Department of Epidemiology July 1st. Effective also in this year was the new plan of the Division of Vital Statistics with reference to the notification of birth registration certificates to parents.

The total expenditures for the State Board of Health during the fiscal year ending June 30th were \$881,484.01. Of this amount \$287,747.04 was appropriated by the Legislature, \$191,943.85 was by the United States Children's Bureau, \$312,-210.02 by the United States Public Health Service, and finally \$89,582.70 from fees received by the laboratory in water taxes, etc., and other miscellaneous items.

(To be continued)

OBSTETRICS

HENRY J. LANGSTON, M.D., Editor, Danville, Va.

THE WEIGHT GAIN OF PREGNANCY

Most textbooks, articles and lectures that mention the subject state that the pregnant woman should limit her weight gain to 20 to 25 pounds. Clinicians pass this information on to the patient. All who have delivered babies have seen large, fat babies from starving, sick women; and small, skinny babies from fat, over-fed mothers.

A sane article furnishes material for this abstract.

Experience has shown that the over-weight woman is more susceptible to toxemia. Much of the extra weight present in toxic individuals is due to edema, but before edema develops every extra ounce of fat requires an increase in circulation. In an individual whose circulatory and excretory systems are doing extra work because of the pregnancy, this extra work may easily become the deciding factor between a toxic and non-toxic condition. Especially is this true in individuals whose circulatory and excretory organs have been damaged by previous diseases.

As a rule, the patient continues on her way gaining fairly regularly. Suddenly it is noted that she has gained twice or three times as much as usual between visits. The urine and blood pressure may still be normal. On the next visit, if the weight persists, it will most likely be noted that albumin appears in the urine and that the blood pressure rises considerably. So often has this sequence been noted as to lead many to believe that the scales are better indicators of impending toxic states than either the test tube or the sphygmomanometer.

Most women know very little about pregnancy and, as a rule, they are very willing to learn. If they are interested enough to present themselves for prenatal care in the earlier months of pregnancy, it is the doctor's duty to help maintain that interest and encourage coöperation by proper instruction. Among other things, these women should be told how much they may expect to gain and why they should keep their weight within bounds.

The pregnant woman should not be rationed unless for sound reasons. She should be taught the caloric value of food, the importance of an adequate diet, including minerals and vitamins. The basis should be milk, green vegetables, lean meat, eggs, fruits and fruit juices. Other foods should be eaten sparingly. This basic diet has the advantage of being well supplied with the minerals and vitamins—except D which should be given in the form of cod-liver oil.

Exercise should be encouraged so long as there are no contraindications. This should be well within the usual limits of the particular patient's habits and stamina.

PEDIATRICS

EDWIN L. KENDIG, JR., M.D., Editor, Richmond, Va.

FEARS OF INFANCY AND EARLY CHILDHOOD

Psychiatrists, professional and amateur, are always telling us that fear is the greatest of evils. Most of us are convinced that there are fears and fears, some of them wholesome, beneficial, protective.

Here is abstracted an article¹ supporting this view:

In addition to the ordinary protective fears necessary to the usual methods of life, nearly every person suffers from obsessive fears, unwarranted, yet so deeply rooted in the subconscious that they

^{1.} J. L. Duer, Wood earl, Okla., in H. Oklahoma State Med. Assn., Dec.

^{1.} H. E. Utter, in R. I. Med. Jl., Dec.

curtail our pleasure and dominate the existence of many individuals.

Protective fears, for the most part instinctive and to be witnessed in almost any animal, appear between the fourth and fifth months. Suddenly and unexpectedly the infant at this period cries at the approach of a stranger, or when it finds itself in an unusual situation.

The offspring of mature parents are often more sensitive to external stimuli than those of young parents and may demonstrate their fears a few weeks earlier. Infants born of older parents develop mentally more rapidly than do those of

younger parents. By the end of the eighth or ninth month the average baby has become accustomed to strange situations and the outburst sof crying are less frequent. At about the middle of the second year here starts a year of uncontrolled independence, and for his pains he receives many a bump.

Mentally-defective children's protective, instinctive fears persist for many years because of their slow development of the reasoning power to accept the unimportance of such fears.

Convenient fears, which allow the growing child to avoid responsibilities, increase rapidly in the preschool child. They have no psychological basis, but if the child is sufficient of an actor, these convenient fears increase greatly the difficulties of dealing with the child in home and school.

The fears of early childhood usually are brought quickly under control by an intelligent parent, the time necessary depending upon the intellectual development of the child.

Conditioned fears are those which have become fixed in the child's subconsciousness by a circumstance or a series of situations which promote fear. The child who lives in a household of confusion and excitement becomes irritable, develops a feeling of insecurity. Children whose playground is the city's streets may become accustomed to the hazards of life and learn to avoid the dangers and so be free of fears which others are not so well qualified to understand. The child whose daily life is too carefully guarded may pass through his early childhood without the appearance of any nervous fears and be overcome when he later faces the complexities of life.

The unstable mother or nurse is most frequently the person who stimulates the development of fears in the child. Such a person may be emotionally overcome at the sight of an accident in the street, the appearance of blood from a wound or such trivial incidents as the appearance of a mouse.

The placid infant is seldom beset with fears. His parents are probably of a similar temperament. As he grows older he follows his daily routine of life with enjoyment, is friendly with everyone; his wants are few; he is easily amused. His nervous system is stable, even though not highly organized, and he little comprehends the troubles of the opposite type. His fears are few and inconsequential.

The sensitive, highly organized infant if intelligently handled enjoys life in its fullest measure even though his ups and downs may be greater. He is intelligent, with proper concentration becomes a good student. He is a natural leader and is sought by his friends. He is full of imagination and adventure even to a point when his enthusiasm leads him into danger.

The children of today become cognizant of many matters in life of which the generation of children past knew little. The radio brings to them many of the sordid matters of life which may leave a lasting impression. Restless nights and night terrors, more often than real fears, result from radio stories.

Fear of darkness is usually the result of conditioning by an oversensitive parent. The scream of a thoughtless mother in the dark stimulates the imagination of the child and starts the fear process. The many unexplained sounds heard in the night are often a source of terror to the child. In the darkness the auditory apparatus magnifies these sounds.

Repeated walks in the darkness with the child who possesses such fears will frequently relieve the child of his fears.

Fears of cats or dogs are often founded upon the behavior of a parent who dislikes pets. Fear of the water is often stimulated by an overzealous father who desires to teach his child to swim long before the latter has the least desire to learn.

Many children develop a fear of a school teacher from unnecessary discipline.

One of the most distressing to parents is the early childhood fear of being left alone. The greater the nervousness manifested by the mother the more intensive the show staged by the child. The parent who treats her child with seeming disdain at this demonstration is the successful parent.

The fear in the young child of passing a stool in the toilet may be owing to the passage of a hard, constipated stool having caused pain or resulted in a fissure of the anus with the passage of blood. This fear is usually overcome by giving laxatives, enemata or suppositories to produce a soft stool over a sufficiently long period of time to restore the confidence of the child.

The management of the fears of early childhood is dependent upon the intelligence of the parent or nurse. Self-control must be exerted by persons who care for children. The mother who will maintain inflexible, determined, but affectionate, degree of patience with her child will seldom need the help of a child psychologist. A clever mother

should be able to unravel the threads leading up to the situation which lowered the threshold of the child's subconsciousness to permit the entrance of the fear-complex. The fears of older children may need a trained detective to reveal their basic causes; the mother should be the best physician for the young child.

CAUDAL ANESTHESIA IN OBSTETRICS

A new method for continuous or fractional caudal anesthesia has been developed by Edwards and Hingson (Am. J. Surg., Sept.). There has been uniform absence of delerium, narcosis, cyanosis, nausea, vomiting and anoxemia; and no interference with uterine contractions. Every infant in the series breathed spontaneously except one known to have been dead several days before delivery.

The technic consists in the injection of an initial dose of 30 c.c. of 1½ solution of "Metycaine" (Gamma—(2-methyl-piperidino)—propyl Benzoate Hydrochloride, Lilly) followed at 30- or 40-minute intervals with 20 c.c. of the 1½% solution. In every case there has been complete freedom of pain and discomfort of active labor within five minutes following the initial dose. Episiotomy and outlet forceps, and repair of the episiotomy have been without pain. The duration of anesthesia has ranged from 4¾ to 13 hours.

One patient was having eclamptic convulsions when admitted, with b. p. 220/110. After the initial dose of "Metycaine" the pressure declined to 140/90 and the picture improved remarkably. The anesthetic was continued throughout the day without the b. p. exceeding 150. She delivered a healthy baby spontaneously 13 hours after the initial dose.

DERMATOLOGY

J. LAMAR CALLOWAY, M.D., Editor, Durham, N. C.

DISTRIBUTION AS A FACTOR IN DERMATOLOGIC DIAGNOSIS

DISTRIBUTION of dermatologic lesions without regard to type or character may be of invaluable help in establishing the diagnosis. Some of the commoner dermatoses and their distribution are listed in tables below.

- A. Lesions tending to involve the face
 - 1. Acne vulgaris
 - 2. Rosacea
 - 3. Seborrheic dermatitis
 - 4. Herpes simplex
 - 5. Lupus erythematosus
 - 6. Infantile eczema
 - 7. Impetigo contagiosa
 - 8. Lipstick, rouge, hair dye, cosmetic dermatitis
 - 9. Sycosis barbae
 - 10. Secondary syphilis
 - Measles
 - 12. Senile keratosis
 - 13. Epithelioma
 - 14. Lupus vulgaris
 - 15. Boeck's sarcoid

- B. Lesions of the palms and soles
 - 1. Ichthyosis
 - 2. Dermatophytosis and dermatophytide
 - 3. Secondary syphilis
 - 4. Contact dermatitis
 - 5. Neurodermatitis
 - 6. Hyperhidrosis
 - 7. Verrucae vulgaris
 - 8. Arsenical keratoses
 - 9. Erythema multiforme
 - 10. Psoriasis
 - 11. Variola
 - 12. Xanthoma tuberosum multiplex
- C. Lesions involving the eyes or eyelids
 - 1. Syphilis I, II, III
 - 2. Rosacea
 - 3. Boeck's sarcoid
 - 4. Pemphigus
 - Xanthelasma
 - 6. Hemangioma
 - 7. Contact dermatitis (nail polish, eye shadow, cosmetics)
 - 8. Lupus erythematosus
 - 9. Neurodermatitis
 - 10. Seborrheic eczema
 - 11. Herpes zoster
 - 12. Pyogenic blepharitis
 - 13. Cysts, milium, hordeolum, chalazion
- D. Lesions involving predominantly the lower extremities
 - 1. Erythema nodosum (non-ulcerative)
 - 2. Erythema induration (ulcerative tuberculosis)
 - 3. Stasis dermatitis
 - 4. Bromoderma-ioderma
 - 5. Dermatophytosis, dermatophytide
 - 6. Diabetic ulcer
 - 7. Syphilitic gummatous ulcer
 - 8. Necrobiosis lipoidica diabeticorum
 - 9. Raynaud's disease—Berger's disease
 - The state of the s
- E. Papulo-squamous eruptions of the thorax
 - 1. Secondary syphilis
 - 2. Psoriasis
 - 3. Pitvriasis rosea
 - 4. Tinea versicolor
 - 5. Seborrheic dermatitis
 - 6. Lichen planus
 - 7. Dermatitis medicamentosa
 - 8. Parapsoriasis
- F. Lesions tending to exempt the face
 - 1. Pityriasis rosea
 - 2. Psoriasis
 - 3. Lichen planus
 - 4. Erythema multiforme
 - 5. Scabies

- 6. Toxic erythema
- 7. Tinea versicolor
- G. Lesions involving oral mucous membranes
 - 1. Syphilis I, II, III
 - 2. Herpes (aphthous ulcers)
 - 3. Malignancy
 - 4. Leukoplakia
 - 5. Erythema multiforme
 - 6. Pemphigus
 - 7. Lichen planus
 - 8. Electrogalvanic lesions (Lain)
 - 9. Disseminated lupus erythematosus
 - 10. Stomatitis
 - a. Mycotic monilia
 - b. Drug (mercury, arsenic, barbiturates)
 - c. Vitamin deficiency (B complex,
 - A, C)
 - d. Venenata (mouth washes, toothpaste, powders, etc.)
 - 10. Measles (Koplik's spots)
 - 11. Scarlet fever
 - 12. Purpura
 - 13. Cheilitis
 - 14. Blood dyscrasias (leukemia, purpura, aplastic anemia, etc.)
 - 15. Epidermolysis bullosa
- H. Lesions producing generalized eruptions
 - 1. Syphilis, secondary
 - 2. Drug eruptions
 - 3. Toxic erythemas
 - 4. Exfoliative dermatitis
 - 5. Scarlet fever, variola, varicella, measles
 - 6. Ichthyosis
 - 7. Lymphoblastomas
 - 8. Urticaria
 - 9. Serum reactions
 - 10. Addison's disease, argyria, etc.

TUBERCULOSIS

J. DONNELLY, M. D., Editor, Charlotte, N. C.

WORLD WAR II AND THE TUBERCULOSIS PROBLEM

UNITED STATES statistics indicate that the incidence of tuberculosis has been lessening among the general population for many years, but it seems generally expected now that, as a result of the present World War, this decrease in the incidence and mortality of the disease will cease within a short time. World War I stamped tuberculosis as a major problem in public health activities, because of the discovery of numbers of French soldiers with active disease, and the statistics of the mortality records of the war years in the civilian population of every country engaged. These fig-

ures proved tuberculosis to be a prime factor in increasing the death rate of the population in long wars, and that long wars had always had the same effect, because of the privations undergone by the people. Malnutrition, crowding, exposure to infection, and many other hardships, have been generally supposed to produce such effects.

At the present stage of the conflict, even though information concerning health conditions in foreign countries is limited and unsatisfactory, such evidence that is at hand indicates that in certain countries in Europe extreme privation is being undergone, particularly as to food shortages, and that a greater rise in tuberculosis than was experienced during the last war is again to be expected. The death rate from tuberculosis in the United States showed its usual rate of decline last year, but false hopes should not be allowed to make us overoptimistic, because the population of this country has not yet been compelled to undergo any particular hardships. It is well to remember that this country will have to a great extent to feed the world. and this fact will necessitate the curtailment of many of our desires.

Fortunately, years of research and experiment since World War I have led to further knowledge in the methods for control of tuberculosis, and many countries anticipated the eventual outbreak of war and prepared as far as they could against tuberculosis as a grave menace. In spite of this partial preparation a rise in the incidence of tuberculosis is already apparent. Modern war is total war, and involves not only the soldiers engaged, but also large numbers of the population in speeded-up industrial plants.

The National Tuberculosis Association has collected authoritative figures illustrating the increase since the beginning of the war of deaths from tuberculosis in Paris, England, Wales, Scotland and Canada.

Deaths from tuberculosis in Paris during the first six months of 1941 increased 10% over the number of deaths in the first half of 1939, and deaths from the disease among children from 1 to 9 years increased 28% in spite of the fact that the population of this city decreased about 14%. Sputum examinations in laboratories increased markedly, and the average number of positive results increased from 59.1 per 100,000 in 1939 to 211 per 100,000 in 1941.

In England deaths from pulmonary tuberculosis increased 6% the first year of World War II and 10% the second year. The deaths from other forms of tuberculosis increased 2.4% the first year and 17.6% the second. Also, it is evident that there is a considerable amount of infection among children, probably due to the larger infecting dose, and the lowered physical resistance because of in-

sufficient food. A good many causes can have contributed to the lowered resistance in children, but the most important are said to be change in diet, non-pasteurized milk, blackout and shelter, and lack of sleep and rest during the numerous bombing raids. Some marked differences between the tuberculosis situation in World War I and that of World War II are noted. For instance, tuberculous meningitis has increased considerably, whereas in the first world war in a corresponding period this disease decreased almost to pre-war level.

In Canada the fall in the tuberculosis death rate has been steady for the past 25 years, but this country reports an increase in deaths in 1941 of 5% over 1940. This is the first increase of any consequence in Canada's death rate from this disease in 15 years. That the disease remains an important health problem is evidenced by the fact that it kills 6,000 people a year and leaves approximately 30,000 incapacitated, besides costing the country \$8,000,000 each year.

Alarming increases in the disease have also been reported from China, Greece, the Low Countries and Poland, but no figures that can be considered authoritative are yet available.

The United States is apparently the only country so far unaffected by an increase in tuberculosis deaths, but we have not been in the war long enough to be forced to undergo the hardships other countries have experienced. The 1941 death rate in this country was 44.4 per 100,000, a decline from 45.9 per 100,000 in 1940. Also, preliminary figures for 1942 indicate that there will be a continued slight decline in the rate when figures for this year are complete. Increasing effort is being made in the United States to avoid induction of soldiers with tuberculosis into the army. X-ray eramination of practically all recruits admitted into the army is made, and all recruits with both active and arrested lesions are rejected. Efforts are also being made to avoid any chance of nutritional deficiency among the civil population, since nutritional deficiency is believed to have an important bearing on resistance to tuberculosis. However, it is possible that malnutrition may not be the most important predisposing factor in a postwar rise in the incidence of tuberculosis. Increase in the number of industrial workers, with the lack of sufficient housing facilities, leading to crowded quarters, gives greater opportunities for transmission of infection. G.J. Wherrett, in a recent issue of the Canadian Public Health Journal, says that the two present most important phases of casefinding services available are (1) for the general practitioners to provide early diagnoses, since that is still the greatest source of cases, and (2) examination of contacts, the next greatest source, Casefinding projects among industrial workers, particularly among workers in war industries, are very important, because tuberculosis is two and a half times as great in industry as in the general population. Hence, the control of tuberculosis is a necessary phase of industrial hygiene.

Emphasis is also placed by this writer on retaining the open case of tuberculosis in a sanatorium until his or her case is arrested, or at least until the sputum is rendered negative. Every patient who leaves against advice constitutes a continuous health hazard to associates or other members of the family. In fact, all the efforts previously found necessary in case-finding must be redoubled in this time of greater menace.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

PROSTATIC ENLARGEMENT

THERE are a few proven cases on record in women in which a group of subcervical glands enlarge and cause symptoms, and these glands have the same histological structure as the prostate in the male. This startling statement opens an instructive article, which is abstracted.

From 25-60 per cent of men past 50 have prostatic enlargement. There was a case in Memphis recently of operation for prostatic hypertrophy in a man of 25.

The cause is not known. Character and former habits have nothing to do with it. The rowdy drunkard and the chronic venereal are no more apt to be involved than the upright, temperate man or even the celebrant. Prostatic hypertrophy is practically unknown among the Chinese.

The symptoms having been evaluated and the history well in mind, the patient should be given a chance to void all he can in the presence of running water without another person in the room. Then he should be catheterized, with a soft rubber catheter if possible; if not, with a fiber catheter or a soft rubber catheter, inside of which is a guide.

Severe strictures and hypertrophied prostates do not occur together, very few exceptions. We do not attach nearly so much importance to gradual decompression as we formerly did.

Rectal examination is mostly for determining the consistency of the prostate with reference to malignancy. A prostate of stony hardness and nodular and immovable is almost certain to be malignant.

Prostatic stones may be felt per rectum if they are near the surface. A rectal examination may remail a prostate seemingly of normal size and con-

^{1.} J. C. Pennington, Nashville, in II Tenn. State Med Assn. Jan.

sistency when the prostate is known to be the cause of urinary obstruction. Never rely upon rectal examination alone to determine the role being played by the prostate in urinary obstruction. The patient's rectum may be so full of prostate as to obstruct bowel movements without the prostate being the least bit enlarged into the bladder: whereas the prostate small to rectal examination may be as large as a lemon in the bladder.

X-ray examination, plain or after injection of air or other media into the bladder, determines the size and type of extension into the bladder.

Proper drainage, which may be by a urethral or suprapublic catheter, is essential; urinary antiseptics may or may not be used. Kidney function tests are indicated.

After the patient is ready for surgery, there is considerable range of choice, depending upon the type of prostate, general condition of the patient, the urologist's capabilities, the psychology of the patient, and many other factors.

CLINICAL CHEMISTRY AND MICROSCOPY

A SIMPLIFIED METHOD FOR THE DETERMINATION OF PROTHROMBIN TIME

- A—4.5 cc. of blood is drawn from a vein into a dry syringe and mixed with 10 mg. of potassium oxalate in a centrifuge tube.
- B—0.2 cc. of the oxalated plasma is pipetted into a small test tube, and 0.2 cc. of Russell viper venom, 1:10,000 solution is added.
- C—A calcium chloride solution (1.11 gm. in 100 cc. distilled water) is added.
- D—The stop watch is immediately started, and the tube is agitated for 10 to 15 seconds in a water-bath at 37.5° C.
- E—Then remove and tilt until separate discrete fibrin particles can be seen. The first appearance of the fibrin particles is taken as the end point.

This method has the advantage of a relatively stable, clear solution, and the use of plasma permits greater leeway in blood-collection technic. The end results are figured in an identical manner as the one noted on page 227 of the book, Medical Laboratory Technic, Feder.

SOLOID STAINS

"Soloid" is a dyestuff marketed in tablets which are quite soluble in a suitable fluid, which, with amount required, is stated in connection with each of the trade substances marketed. The advantages of stains of this type can readily be appreciated by the smaller laboratories and doctors' offices where the use of these substances is extremely limited.

The following table will prove very useful in the preparation of saturated solutions of stains. This is reproduced through the courtesy of Burroughs Wellcome & Co., 9 & 11 East Forty-First Street, New York City, from their informative booklet, *Microscopic Stains*.

'Soloid product

of	0.1 gramme	Water	Alcohol
	of dye	(c.c.)	(c.c.)
Bismarck Brown, pure	1	7	7
Fuchsin (Basic), pure	1	10	2:5
Gentian Violet, pure	1	7	7
Haematoxylin, pure	1	2	1
Methyl Violet, pure	1	5	1
Methylene Blue, pure	1	7	7
Thionin Blue, pure	1	5	10

INTERNATIONAL SURGEONS' ASSEMBLY

On June 14th, 15th and 16th New York City will be host to the Fellows and Members of the International College of Surgeons, which will hold its Eighth National Assembly at the Waldorf Astoria Hotel. The last Assembly was held in Denver, Colo., and the previous year in Mexico City.

Many outstanding surgeons from Latin American countries have been invited to attend and read papers on their civilian and military medical experiences. Famous surgeons in the various branches of our service will give the attending physicians and surgeons the benefit of their work.

The event is of great importance at this time in anticipation of the time, soon we hope, when surgeons now connected with the military activities of the United Nations will want to compare notes and exchange medical and surgical findings as a result of their military experiences.

The International Officers of the College are: Dr. Fred H. Albee, New York City, President; Dr. Desiderio Roman, Philadelphia, President-elect; Dr. Andre-Crotti, Columbus, Ohio, Past President-elect; Dr. Albert Jirasek, Prague, Past President; Dr. Chevalier L. Jackson, Philadelphia, Vice-President; Dr. Manuel A. Manzanilla, Mexico City, Vice-President; Dr. Herman De Las Casas, Venezuela, Vice-President; Dr. Ali Ibrahim Pascha, Vice-President; Dr. Ali Ibrahim Pascha, Vice-President; Dr. Alex Stanischeff, Bulgaria, Vice-President; Dr. A. M. Dogliotti, Italy, Vice-President; Dr. Max Thorek, Chicago, Executive Secretary; Dr. Wm. Seaman Bainbridge, New York City, Treasurer.

This column will carry first-hand information on the activities of the Assembly. Meantime readers of Southern Medicine & Surgery who would like details regarding the Assembly and plan to attend it may obtain this information from the office of Southern Medicine & Surgery, Charlotte, N. C.

Lone chick, taking a look around the electric incubator full of unhatched eggs.

"Well, it looks like I'll be an only child. Mother's blown a fuse."—Canadian Doctor.

If he still has his appoints and his tonsils, ten to one he is a doctor.

THE LAMOTTE OUTFIT FOR SULFONAMIDE DETERMINATIONS

Much of the work done in this country on the use of sulfonamides, frem a pharmacological point of view, was carried out by Professor E. K. Marshall and his associates, at the Johns Hopkins Medical School. Their studies included control measures on body fluids in general. The chemical reactions employed in their analyses were carefully studied, particularly with relation to the coupling agents used. The principle of the method involved the addition of the chemical agent to the specimen containing sulfanilamide, so that chemical combination would take place and produce a dyestuff of brilliant color, which could be measured colorimetrically. The intensity of the color produced could be taken as a direct indication of the amount of the sulfanilamide present.

The coupling agent ultimately adopted by the authors was the highly purified N (1-Naphthyl) ethylenediamine dihydrochloride, used in conjunction with ammonium sulfamate, two new compounds developed specifically for this work and furnished by the LaMotte Research Department.

The LaMotte Sulfonamides Gutfit, which was developed as a simplified clinical unit, in conjunction with the work of Docors Marshall and Bratton, and with their approval, employs a series of prepared color standards showing the intensity of color produced in measured specimens of body fluids. The useful range of concentrations is measured by these standards, the standard procedure covering the sulfonamide drugs in the free form in blood, urine, feces, milk etc. By a slight modification the conjugated forms may also be taken in the blood pipette for an accurate

In using the LaMotte Outfit the specimen is reagents, according to instructions. The ultimate measurement, and is treated with the standardized determined.

color development is then measured against the known standards in a small comparator in the set. The color standards are interchanged in the comparator, as necessary, until one obtains an exact color match with the specimen, when the value is read directly off the label on the matching standard. Should the color exhibited by the specimen appear to be slightly stronger than the weaker of two consecutive standards, and slightly weaker than the next stronger standard, the reading is then taken as the mean between the two. In other words, if the specimen was slightly stronger than the 5.0 mg, standard, but slightly weaker than the 6.0 mg, standard, the reading would be taken as 5.5 mg, per 100 cc.

Since the various "Sulfa" drugs are derivatives sulfa drugs, when present in the same concentraproperties, determinations with the LaMotte Unit of a parent substance, and exhibit similar chemical
the amount of color developed by the various have shown that a direct relation exists between
tion in equal volumes of solution. Therefore, if one of these sulfa drugs is treated with the rearents, the intensity of the color developed can be taken as the unit of measurement by which
the other drugs can be determined. In the LaMotte Set the intensity of color developed by a
measured amount of sulfathiazole per volume of specimen is taken as the unit, and the mathematical
factors are computed for the other sulfa drugs whose intensities of color developed are either less
or greater than that of sulfathiazole. For example, if sulfapyridine is being used in the treatment of
a case, the LaMotte Set with the sulfathiazole unit basis is employed in the standard procedure, and
the colorimetric result multiplied by 0.93; or if the reading with the sulfathiazole standards on
the sulfapyridine specimen is found to be 6.0 mg, per 100 cc., the sulfapyridine is arrived at by
multiplying 6.0 by 0.93, giving a reading of 5.58 mg, per 100 cc. of sulfapyridine. The same principle applies to the other sulfonamides and these factors are given in the instruction booklet.

1 La Motte Chemical Products Company, Towson, Biltimo e, Md.

THE USEFUL GAYSCOPE -

The "Gayscope" was designed by William Gay, of Grady Hospital, Atlanta, chiefly for studying precipitates in the Kahn reaction. It is also recommended for use in macroscopic inspection of colonies of bacteria and fungus on solid media in test tubes,

This instrument consists of an aluminum case with a special mirror and ocular which magnifies the object to twice its size. It is equipped with a daylight electric bulb which gives steady light at all times, which can be adjusted to suit the individual worker's convenience.

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Offerings for the pages of this Journal are requested and given careful consideration in each case. Manuscripts not found suitable for our use will not be returned unless author encloses postage.

As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

ACTUAL DISTURBANCES OF THE ENDOCRINE GLANDS

What symptoms indicate malfunction of one or more of the endocrine glands? What preparations of endocrine glands, or substances built up synthetically may be depended on to be remedial?

These are among the most important problems confronting physicians and surgeons. Of great help in these solutions is the Mayo Clinic article¹ liberally excepted herewith:

Formerly, when a child didn't turn out as well as it was hoped he might, his parents remembered that in his infancy some inattentive nurse had dropped him on his head; now it's his glands! If you are too tall or too short, too fat or too lean, too nervous or too dull, it's the glands! If you lack hair, or have too much, if you have pimples, if your nails are brittle, if your child wets the bed, if your arms are too long or your hips too wide, it's the glands! If your physician can't account for your complaints on any other basis (even allergy, a psychosomatic relationship or a vitamin deficiency), then it's your glands!

Endocrinology isn't a science, it's a study; an important and fascinating study which is only in its infancy. Astounding advances are being reported from excellent laboratories, and the application of these discoveries by men gifted with discrimination is promising. But far more frequent are the reports of cures of bizarre syndromes by the administration of endocrine products. Patients are spending large sums of money for preparations of the anterior lobe of the pituitary body to be taken by mouth when there is thus far not a shred of scientific evidence to indicate that such treatment is of any value.

The clinical syndrome of hyperthyroidism is recognized. The differential diagnosis between adenomatous goiter with hyperthyroidism and exophthalmic goiter is of little practical importance, provided all patients for wohm either diagnosis has been made receive Lugol's solution preoperatively. There is no hard-and-fast rule for administration of Lugol's solution; 10 drops t.i.d. for from 10-14 days before operation is the average. Some patients require less, some require more. For maximal improvement some physicians rely on determinations of the basal metabolic rate; others on the return of muscle power as evidenced by the patient's ability to step on a chair.

There is no treatment for adenomatous goiter with hyperthyroidism or exophthalmic goiter which can compare with skillful surgical removal of the

^{1.} E. H. Rynearson, Rochester, Minn., in Rocky Mountain Med. J., Dec.

gland after adequate treatment with Lugol's solution. Deaths are more numerous among those patients who have received Lugol's solution for months in an effort to produce a medical cure, and among those patients who have retained hyperfunctioning adenomatous goiter until irreparable cardiac damage has resulted.

Adenomatous goiter in the presence or absence of hyperthyroidism should be removed. A third of such goiters become hyperfunctioning at some time, and often the symptoms are so insidious as to be unrecognized until it is too late. In virtually every case, carcinoma of the thyroid gland originates in an "innocent" ade noma.

The colloid type of thyroid gland of adolescence, now less frequently seen because of the more general household use of iodized salt, usually responds to the administration of iodine.

When the functioning of the thyroid is greatly below normal we have the syndrome of myxedema, a condition easily recognized and correctible by the judicious use of thyroid extract. For every patient with true myxedema, however, there are 100 patients who have a low basal metabolic rate without myxedema, and in many instances the low b. m. r. is a part of the general clinical picture rather than the cause of the manifestations. Raising the b. m. r. of one who does not have myxedema may or may not produce improvement. Most patients with myxedema are completely relieved of all symptoms by means of a daily dosage of 2 grains or less of desiccated thyroid extract; many patients with low b. m. r. without myxedema require two or three times this amount, and then their symptoms may not be relieved.

Parathyroid insufficiency usually follows the surgical removal of, or damage to, the parathyroid glands. Most of the patients do well under the use of inexpensive calcium lactate, which is effective only when in complete solution, and this can be accomplished only by dissolving it in very hot water. The condition of one patient is well controlled with four teaspoonfuls a day, that of others requires 20 teaspoonfuls or more. Absorption of the calcium is aided by the addition of vitamin D, most cheaply and easily as codliver oil. In the very rare cases which require calcium intravenously - gluconate (10 c.c. of a 10% solution). Diahydrotachysterol (A. T. 10) has a powerful effect in raising the blood calcium. It is given by mouth in an average dosage of 1 c.c. every other day. The greatest drawback to its administration is its expense. It is rarely necessary to use parathyroid hormone.

The general symptoms of hyperparathyroidism are muscular weakness, atony and diminished response to stimuli, in contradistinction to the tetany and exaggerated response to stimuli as seen in

hypoparathyroidism. The skeletal symptoms are those of decalcification and cystic changes in the bones. The urinary and metastatic symptoms are the results of the increased transportation and excretion and abnormal deposition of calcium.

Occasionally, a patient is seen who complains of weakness, atony, aching in bones and joints, who has noted a decrease in his height and has had changes in his bones, perhaps even one or more spontaneous fractures. He has suffered from hematuria and nephrolithiasis; his röntgenograms reveal typical osteitis fibrosa cystica; chemical studies on whole blood reveal a high concentration of serum calcium* and phosphatase and low value for serum phosphorus, and he has a palpable parathyroid tumor.

Twenty-two of 35 patients were not suspected of having the disease when they entered the Massachusetts General Hospital, and the diagnosis was made in 12 cases in which characteristic changes in bone were not present and in eight cases in which only a moderate degree of hyperparathyroidism was present.

Once the diagnosis has been established, operation is the treatment of choice. If a tumor is found and is removed, the condition is relieved.

Consideration of underfunction of the pancreas would involve a discussion of the entire subject of diabetes mellitus. Hyperinsulinism, the antithesis of diabetes mellitus, is an extremely rare disease.

Deficiency of the adrenal cortex from whatever cause produces the syndrome of Addison's disease. Remarkable advances have been made in the treatment of this disease, the most recent of which is the synthesis of desoxycorticosterone acetate, the substance most effective in increasing the retention of salt and water. It has given splendid results in the restoration to health of patients suffering from Addison's disease. It does not affect the metabolism of sugar, several deaths have been reported of patients with observations suggestive of hypoglycemia. If given in too great dosage or in conjunction with too much salt, it is likely to cause generalized edema. Pellets of this substance placed beneath the skin of patients with Addison's disease,

^{*}An inexpensive, simple test for calcium in the urine: reagent consists of 2.5 gm of oxalic acid, 2.5 of ammonium oxalate, and 5 c.c. of glacial acetic acid dissolved in distilled water and made up to a volume of 150 c.c. When equal amounts added to urine the calcium will almost immediately come down as a fine, white precipitate of calcium oxalate. If there is no precipitate there is no calcium, and the serum calcium level is probably from 5 to 7.5 mgms. per 100 c.c. If there is a fine white cloud, there is a moderate amount of calcium and the level of calcium in the serum is in the satisfactory range. If the precipitate looks like milk, the danger of hypercalcemia is present.

have given encouraging results; these are not generally available. When this hormone is used the amount of potassium in the diet should not be restricted, and in some instances the addition of potassium has seemed wise. Some cases of Addison's disease cannot be controlled with the use of this single hormone, but can be controlled with the use of the whole extract of the adrenal cortex.

Not every hairy, obese woman has Cushing's syndrome—the clinical picture occurring with basophilic adenoma of the pituitary body, arrhenoblastoma of the ovary or a tumor of the adrenal cortex. Thousands of hairy women require only local attention to the hirsutism. A patient with a tumor of the adrenal cortex has, in addition to the hirsutism and obesity, plethora, acne, hypertension, glycosuria, striae, osteoporosis, and changes in the electrolytes of the blood. Surgical removal of the tumor or hyperplastic adrenal tissue relieves this condition.

The rare syndrome of hyperadrenalism results from overproduction of epinephrine by a tumor of the adrenal medulla. The features are paroxysmal hypertension with vasomotor symptoms which are relieved by surgical removal of the tumor. There never has been a description of a syndrome associated with lack of the adrenal medulla.

The synthetic male hormone, testosterone propionate, has proved of value in the treatment of male castrates and of certain patients suffering from hypogonadism. It is difficult to interpret the results obtained from utilization of this substance.

Estrogenic hormones are of two main types: the naturally-occurring; and the synthetic, stilbestrol. They are of great value in the treatment of certain patients with amenorrhea and of certain patients who have menorrhagia or metrorrhagia or both, along with insufficient or incomplete proliferation of the endometrium; also in gonorrheal vaginitis of the young girl and in the treatment of senile changes that occur in the vagina and external genitalia after the menopause.

Stilbestrol is now being given a clinical trial in several clinics and seems most effective when given orally. It is much more potent than the naturallyoccurring estrogens.

Progesterone, the hormone of the corpus luteum, acts synergistically with estrogen and has some influence on the metabolism of the estrogens. It is used in those cases of atypical bleeding from the uterus in which the endometrium shows an insufficient progesterone effect. It is probably substitution therapy. It is also used in the treatment of threatened abortion.

Pregnant mares' serum and extracts of pregrancy urine in the treatment of undescended testes have produced satisfactory results in well-selected cases. Many boys with undescended testes will improve spontaneously without any treatment.

Not every person who drinks large quantities of water and who passes large quantities of urine has diabetes insipidus. No case of true diabetes insipidus in which the urine could be concentrated to a specific gravity of more than 1.010 has been reported. The treatment is either the injection of pitressin hypodermically or the intranasal insu ation of powdered whole extract of the posterior lobe of the pituitary body. The latter method, which is much cheaper, is usually effective and does not cause the unfortunate side effects sometimes experienced when pitressin is administered hypodermically.

The anterior lobe of the pituitary has properly been left to the last because it is a subject about which most is written and about which least is known. For the present reference should not be made to pituitary hormones, but rather to pituitary effects. The hormone which has had the most extensive clinical trial is the growth hormone, and yet at a recent meeting of neurosurgeons from the United States and Canada, this question was asked: "Is there anyone at this meeting who ever has seen any patient with pituitary insufficiency of any type improved by the administration of any pituitary extract yet available?"; and no one in the audience had ever witnessed any such improvement!

Conditions which are related to disturbance of the anterior lobe of the pituitary body include dwarfism, Fröhlich's syndrome, Simmonds' disease, hypopituitarism with chromophobe adenoma of the anterior lobe of the pituitary body, gigantism, acromegaly, and Cushing's syndrome attributable to adenoma of the basophilic cells. There is little evidence to suggest that treatment with any hormone is effective in any of these conditions. Most patients whose condition is diagnosed as Simmond's disease in reality have anorexia nervosa.

A careful study of the gist of what Dr. Ryearson has to say on this subject will prove of great benefit to our patients, and will keep us doctors from prescribing expensive agents in cases in which they will prove valueless and so losing confidence in them entirely.

ILLUSTRATING THE FALLIBILITY OF SPECIALISTS

Too often we hear of patients or relatives being told, expressly or by implication, that if the specialist had been consulted sooner all would have been well. Too often the impression is given that the g. p. is inexcusably ignorant or careless, or both. Too seldom is it made plain to all interested that even those best informed and best equipped could have done no better.

Three reports are cited to call attention to the fact that serious disease conditions may develop under the eyes of physicians and surgeons second to none, and with diagnostic equipment of the very best—and be recognized very late indeed.

The first case¹ manifested itself in man at a justly famous clinic to which he had gone, not as a patient, but to accompany his wife.

On March 27th, 1942, a farmer aged 58, at the Clinic with his wife, registered for examination.

For 30 years he had had a feeling of fullness beneath the left costal margin which had increased until he was seldom free from distress. He had a dull aching between his shoulders. In September, 1937, cholecystectomy had been performed elsewhere because of jaundice. In October, 1941, he had undergone another operation because of a recurrence of his jaundice. It was learned later that this was for stricture of the common duct.

Examination revealed nothing significant, b. p. 95/65; röntgenograms of the thorax, stomach, colon and terminal portion of the ileum were negative.

On April 6th the patient entered the hospital at 5:30 a. m., because of severe abdominal pain which extended into his back. This had started three days before and had become steadily worse. He complained of epigastric fullness and nausea and had two episodes of vomiting.

His abdomen was tense and tender to palpation. The more medial of the two scars was especially tender and seemed to bulge. Leukocytes 11,000-85% neutrophils. The urine contained bile (grade 1, basis of 1-4) and a few granular casts. The value for bilirubin was 4.9 mg, per 100 c.c. of serum and the reaction was direct. The prothrombin time was 22 seconds. The value for serum amylase was 50 units and the lipase determination gave negative results. A tentative diagnosis of postcholecystectomy syndrome and pancreatitis was made. The medical consultant suggested the possibility of a ruptured viscus and specifically mentioned the common bile duct. The t. on admission was 97.8, rapidly rose to 102; p. rate 88, r. 24. During the next week these gradually returned to normal, but the serum bilirubin reaction was direct and the concentration rose to 12.8 mg., that of urea to 64 mg., per 100 c.c.; and the leukocyte count rose to 15,000. The abdomen remained tense.

Because the patient was not improving under conservative management an exploratory operation was performed April 13th, one week after admission. A small collection of bile was encountered immediately on entering the peritoneal cavity; and

1. N. C. Plimpton & O, T. Clagett, in Proc. Staff Meet. Mayo Clinic. Dec. 2nd.

on freeing the edge of the liver from the anterior abdominal wall a large cavity was entered which contained 1,500 to 2,000 c.c. of bile, extending under the dome of the diaphragm and well down into the right flank. Because of the patient's condition no exploration was attempted. The abdomen was closed with two Penrose drains through the wound and two rubber tubes through a stab wound in the flank.

The serum bilirubin gradually returned to normal. Large quantities of bile drained for the first three weeks but by the time the patient left the hospital on the 32nd postoperative day only small amounts of bile were draining. The postoperative treatment consisted mainly of a high-carbohydrate, low-fat diet; and administration of ferrous sulfate, bile salts and vitamins. A test of liver function once week before dismissal revealed retention of dye, grade 2. The patient was dismissed from the Clinic on the 36th postoperative day with his wound completely healed.

The patient returned to the Clinic on June 29th, 1942, for a survey. His serum bilirubin was normal and a test of liver function revealed no retention of dye. His general health was excellent.

Although the site of extravasation of bile could not be determined at the time of the operation, it probably came from the stump of the cystic duct or the site of the previous choledochostomy.

Read that over again carefully and then consider whether or not you would have blamed any general practitioner for failure to recognize this condition until the patient had been under investigation for 16 days.

The second report² is not of an individual case; but it plainly shows how difficult, or even impossible, it may be for any doctor, by any means known, to know that certain coronary-disease attacks are coronary-disease attacks.

Patterns in coronary disease vary widely. Painless attacks are by no means uncommon, but cases which show neither pain nor dyspnea are rare. White reports a series in which there was precordial pain alone without fever or leukocytosis. Cases in this series were intepreted as occlusion of small branches and adequately treated by a short rest period. There may be no alteration of blood pressure and the clinical picture may be that of heart failure of slow development without pain.

In well-authenticated cases, all of the following symptoms and laboratory findings may be lacking: pain, fever, leukocytosis, lowered blood pressure, friction rub, dyspnea, and nausea. Obviously, all are not lacking in any one case. It would seem that some degree of shock is to be expected in even the mild cases; its presence in patients past middle

^{2.} C. E. Harris, Grinnell, in Il. Iowa State Med. Soc., Jan.

life, when not otherwise easily explained, should arouse suspicion. Brief attacks of dyspnea as well as complaints of fainting spells and acute indigestion are also significant. It is justifiable to overdiagnose a case in which there is the slightest suspicion of a coronary attack until the time when the electrocardiograph and other clinical data resolve the doubts.

If we are to suspect coronary-artery disease in every case we see of a person past middle life in "some degree of shock," and be very suspicious of it if a history is elected of brief attacks of dyspnea, fainting spells or indigestion, we must become an extremely suspicious lot. Certainly, in such cases we should keep our suspicions to ourselves.

From the third report³ only a few sentences are given here to indicate the uncertainty and unwisdom of making a positive diagnosis of pulmonary tuberculosis on x-ray evidence.

Pulmonary disease has been described which at first examination closely resembles tuberculosis. Serial radiograms were most important in arriving at the correct diagnosis.

In cases in which no tubercle bacilli are to be found in the sputum conservatism is indicated in diagnosing pulmonary infiltrations.

It is suggested that disease of this type be called subacute pneumonitis until a more correct name can be given.

Anybody can make the diagnosis when tubercle bacilli are found in the sputum.

It behooves us all to consider and think more of the inherent difficulties of diagnosis in a great percentage of cases of serious illness; and to honestly inquire within ourselevs if we could have done any better—or as well, even.

And it would be fit all of our overwise ones to look up the Scriptural reference, "Thou art the man."

3. E. E. Glenn, Springfield, in Jl. Mo. State Med. Assn., Jan.)

HOSPITAL NAMED FOR SURGEON GENERAL OF THE CONFEDERACY

THE GOVERNMENT honors itself in paying honor to the physician and surgeon appointee to the highest office held by one of his profession in the Government of the Confederate States of America.

It is fitting that doctors of this time know what manner of man he was.

SAMUEL PRESTON MOORE

(1813-1889), a surgeon general of the Confederate army, was born at Charleston, S. C., the son of Stephen West and Eleanor Screven (Gilbert) Moore. The founder of the Moore family in America was Dr. Mordecai Moore, who came to America was Dr. Mordecai was Dr. Mordecai Moore, who came to America was Dr. Mordecai was Dr. Mordec

ica with Lord Baltimore, as his pyshician. Samuel was graduated from the Medical College of South Carolina on March 8th, 1834. One year later he was commissioned assistant surgeon in the United States Army and entered upon a long service in the western posts of Iowa, Kansas and Missouri. Afterward he went to Florida, where, in 1845, he married Mary Augusta Brown, the daughter of Maj. Jacob Brown. During the Mexican War his entire service was along the Rio Grande, mostly at Camargo, across the Rio Grande from what was later Fort Ringgold. On April 30th, 1849, he attained his surgeoncy, with the rank of major, he held until his resignation in 1861.

On the coming of the Civil War, he, along with many regular officers, resigned from the service so as not to fight against his state, and entered the practice of medicine at Little Rock, Ark. Trained military surgeons were too few in the South, however, for one of so long service to remain unknown. In June, 1861, he was made surgeon general of the Confederate army. His task was most difficult. There was a shortage of doctors, as well as of drugs, supplies and hospitals. Owing to the general practice of organizations electing their own officers, including surgeons, many poorly qualified men were commissioned. Moore established examining boards to weed out the unfit, and introduced so far as possible the organization and methods obtaining in the medical department of the United States Army. Probably he succeeded as well as any one could under the circumstances, but when the Union army entered Richmond, the records of his office were almost entirely destroyed by fire, as were most of the books and private papers of his family, so that there is little documentary evidence of his work. During the war he undertook two methods of keeping medical officers informed as to the progress of their profession. He organized in 1863 and was president of the Association of Army and Navy Surgeons of the Confederate States, and he encouraged the publication of the Confederate States Medical & Surgical Journal (January, 1864-February, 1865). The Association promoted meetings and discussions of medical subjects and, in general, the extension of knowledge, much as does the ordinary medical society. The Journal presented valuable case reports, articles on original investigations, and reviews of foreign and Union books and journals. Its value was greatly enhanced by the absence of any other such publicat'on in the Confederacy.

After the war, Moore remained in Richmond, not practicing medicine but devoting much time to the furtherance of education and agriculture, incidentally serving as a member of the Richmond School Board (1877-89) and of the Virginia Agricultural Society. In the latter capacity he took an

February, 1943

important part in the promotion and improvement of the state fairs. He lived quietly and in honor until his death. As surgeon general he was regarded as strict and exacting, and as a severe disciplinarian; yet personally he seems to have been kind, mild, philanthropic, and modest and reserved in manner.

Copied from the Dictionary of American Biography, Scribners, Vol. XIII.

SOME USES OF SULFANILAMIDE AND SULFATHIAZOLE

Sulfanilamide attains an effective blood level 1 hr. after a single large dose. During parturition the concentrations of the drug in the maternal and fetal circulation are the same. Before we had sulfanilamide blood-stream invasion usually resulted fatally. The drug and its congeners has markedly reduced the mortality and morbidity in such cases. A blood level of 10-15 mg. per 100 c.c. is to be maintained constantly until cultures of the blood remain sterile and the t. near normal. All foci for infection should receive adequate drainage. In scarlet fever sulfanilamide has gained wide favor, but there is no unanimity of opinion concerning its value.

In erysipelas it is highly effective when given early; given after the third day it is relatively ineffective. For the first 2 or 3 days the full blood level is to be maintained, then reduced, continued for 10 days after the t. has become normal.

In puerperal sepsis the streptococcus is the most common infecting organism, and sulfanilamide is effective in a large percentage of cases. In the extremely severe cases specific antitoxin should be used in conjunction with the drug. In many cases the etiologic agent is an anaerobic streptococcus, not vulnerable to sulfanilamide, and infected thromboses of the pelvic vessels cannot be sterilized. All cases should be given careful bacteriologic study, since other drugs may prove more effective in some instances than sulfanilamide.

The streptococcus is the most common infecting organism in the peritonitis of young children, ordinarily mixed with some other bacteria, and caused by some surgical catastrophe, such as a ruptured appendix. Sulfanilamide should be given by mouth to maintain a blood level of at least 10 mg. per 100 c.c., and at operation the application of sulfanilamide powder made to the peritoneal site.

With sulfanilamide tonsillitis may usually be promptly cured. Sulfathiazole or sulfadiazine are more satisfactory than sulfanilamide in middle ear infections, since both are highly active, not only agains the streptococcus, but the staphylococcus and pneumococcus as well. In mastoiditis with suppuration immediate recourse should be made to surgical intervention. The general use of the

sulfonamides has greatly lessened the incidence of surgical mastoiditis.

In streptococcic meningitis the results are dramatic. Continue in reduced doses for at least 10 days after the t. has become normal.

In alpha hemolytic streptococcic infections the effectiveness of sulfanilamide is questionable. Administer the drug for a reasonable period of time; if no improvement occurs try one of the other sulfonamides.

In anaerobic streptococcic infections, in combination with zinc peroxide, and with adequate surgical procedures, sulfanilamide is frequently effective.

, Trachoma is one of the few virus infections to yield to sulfanilamide. Relief is prompt. If possible the patient should be hospitalized.

In general to be effective sulfanilamide must be given q. s. to maintain a blood level of 5 mg. of the drug per 100 c.c. for one to two weeks. Sulfapyridine is to be used against the secondary invaders, staphylococci and pneumococci.

Many of the armed forces of the world now include tablets of sulfanilamide as a stock item of the soldier's equipment. On being wounded the soldier administers the first dose to himself, and its optimum constitutional effect is maintained thereafter. Application of the powder at operation is potent in the prevention of gas gangrene in contaminated wounds.

Sulfathiazole has proved highly effective in the treatment of pneumococcic pneumonia, gonorrhea, acute osteomyelitis, carbuncles and large boils, and in diffuse staphylococcic cellulitis.

It would appear that sulfapyridine, sulfathiazole and sulfadiazine are equally effective in the treatment of pneumococcic pneumonia; however, the emphasis has recently been placed on sulfadiazine because of its somewhat lower toxicity and better tolerance by the patient.

In the treatment of gonorrhea in the male sulfathiazole is the drug of choice because of its lowered toxicity, fewer renal complications and better tolerance.

Since sulfathiazole is poorly soluble, it must be administered orally. However, when oral administrations is impossible, or satisfactory concentrations of the drug cannot be maintained by this route, the sodium salt may be given intravenously, 0.06 Gm. per kilogram of body weight made up in a 5 per cent solution of sterile, freshly-distilled water. Subsequent doses are based upon 0.03 Gm. per kilogram given at 6-hr. intervals.

In the treatment of pneumococcic pneumonia in adults, the initial dose of sulfathiazole by mouth should be 4.0 Gm, then 1.0 Gm. q. 4 h. day and night until the t. has been normal for 72 hours. The drug may then be discontinued. If the re-

sponse after 48 hours is unsatisfactory, type-specific antipneumococcic serum should be administered. For children the initial 0.15 Gm. per kilogram (up to 25 kgm.) and the total daily dose.

To cure large boils or carbuncles, the initial dose for adults should be 4.0 Gm., followed by 1.0 Gm. q. 4 h. day and night for from 5-7 days. In diffuse staphylococcic cellulitis, lymphangitis, or acute osteomyelitis, 4 Gm. is the initial dose, then 1.5 Gm. q. 4 h. day and night as long as there is evidence of a spreading infection. The dose is then reduced to 10 Gm. q. 4 h. day and night and continued as indicated. In staphylococcic bacteremia the initial dose for adults is 4.0 Gm, followed by 1.5 Gm. q. 4 h. until the t. has been normal for 48 hours. The dose may then be reduced to 1.0 Gm. q. 4 h. for 14 days, then to 0.5 Gm. q. 4 h. for a minimum of another 14 days. In severe staphylococcic infections in children, the initial and total daily dose should be 0.2 Gm. per kilogram.

A SIMPLE EFFICIENT SPLINT FOR FIRST-AID CARE OF THE INJURED ARM OR LEG

(A. II. Parcher, Ellsworth, in Il. Maine Med. Assn., Nov.)

If a Thomas, Keller-Blake or similar splint is not available, a board serves as a good splint.

The splint is made of 3% inch plywood, 31/2 inches wide, with an expanded head end. The combined splint, which will fit either arm or leg, consists of three sections 12, 24 and 36 inches in length, respectively. Sections A and B form an arm splint. Sections B and C form a leg splint.



The splint has double slots and bolts with wing nuts as a means for adjusting it quickly and firmly to different lengths and angles. The broad headed end acts as a means of fixation; as a spreader for a traction sling; to prevent rotation of the extremity and for patient contact,



It may be applied either to the outer or the inner side of the leg, and reversed for injuries about the ankle joint. When fixed traction is indicated, the outer splint is preferable and may be extended to reach well above the hip and helow the foot



Section B alone makes a good inner arm-splint, and Sections A and B form an arm splint that is easily adjusted for length and also for any desired angle at the elbow.

To stabilize the splint fixation bands from holes in the head end cross over the shoulder and are tied under the opposite shoulder.

ANNUAL MEETING THE AMERICAN FOUNDATION FOR TROPICAL MEDICINE

At the annual meeting January 19th, at the University Club in New York City, plans submitted by the Executive Committee to obtain \$100,000 in gifts to provide for expansion of activities in the current year were approved. The Foundation, established by the American Academy of Tropical Medicine, was incorporated in New York State in 1940. It has been an agency through which individuals and business concerns with interests in tropical areas can aid in strengthening facilities in this country for study and research in tropical diseases. The activity will be along the lines originally established for the Foundation:

- 1. Support of graduate departments in tropical medicine at American medical schools.
- 2. Grants for fellowships in tropical medicine.
- 3. Financial aid for exchange of faculty.
- 4. Support of technical journals in the field.
- 5. Support of research by grants in aid.

WAR PRODUCTION BOARD ORDER AFFECTS VITAMIN CAPSULES

To conserve vitamin A supplies during wartime, W. P. B. order L-40 limits the content of capsules to 5,000 vitamin A units.

In compliance with this order, capsules of Mead's Oleum Percomorphum 50% With Viosterol now contain 83 mg. of oil, equivalent to 5,000 vitamin A units and 700 vitamin D units per capsule.

The new size capsule is now supplied in boxes containing 48 and 192 capsules-about twice the number of capsules without increase in price.

ALL PATIENTS WITH HYPERTENSION should be thoroughly examined urologically early in the disease to determine whether or not the source of the elevated pressure is in the urinary tract, and whether that source can be eradicated. Children can develop hypertension with as severe symptoms and as rapid fatal termination as adults. They may be examined easily urologically.

-W. J. McMartin, in H. Ask. Med. Soc., Jan.

NEWS

DR. W. D. HADEN SERVES THREE TERMS AS MAYOR OF CHARLOTTESVILLE

After three terms as Mayor and 12 consecutive years as a member of the City Council, Dr. W. Dandridge Haden, prominent in both the civic and business world of Charlottesville, is retiring from the official life of Charlottesville

Dr. Haden retired from medical practice a number of years ago.

Much of the credit for the erection of the city's new high school building was due to Dr. Haden. He also was active in obtaining for the city a new armory for the local military unit, the Monticello Guard.

With other members of the commission, Dr. Haden has been scanning postwar prospects of civic development and outlined a program of work projects to insure adequate expansion of public services, and to cushion the shock when postwar employment slump threatens. These include a new water basin, city hall, highways and better parks.

Regular meeting Catawba Valley Medical Society, Tuesday evening, January 12th, 1943, at 7:30 p. m., in Hickory, N. C., at Hotel Hickory.

Program

Report on 12,000 Tonsillectomies, by Dr. W. F. Elliott, Lincolnton.

Headaches and Dizziness from Hypertension Controlled by Histamine Phosphate Treatment, by Dr. Clyde R. Hedrick, Lengir

Winning the Peace, by Dr. James M. Northington, Char-

L. A. CROWELL, JR., M.D., Secretary-Treasurer.

ROWAN-DAVIE MEDICAL SOCIETY Dinner Meeting, Yadkin Hotel, February 4th, 1943, 6 p.. m.

Speaker: Dr. Bennett Poole, Professor of Allergy, Bowman Gray School of Medicie. Subject: Allergic Patient. B, L. Field, Sec.

Dr. D. Heath Nisset announces the reopening of his office January 1st, Suite 222 Professional Building, Charlotte, N. C. Practice limited to Gastroenterology.

DIED

Dr. John Armstead Winstead, 53, a native of Nash county, N. C., died in Raleigh December 25th. He was educated in the schools of Nash County and at the University of North Carolina, graduated in Medicine from the North Carolina Medical College, class of 1914, licensed to practice in N. C. in 1914 and joined the Medical Society in 1916. During his early medical practice, he was associated with his uncle, Dr. Poovey, in Lancaster, S. C. In World War I he served overseas with distinction in one of the medical units that saw front-line duty. Returning from overseas, he resumed his medical practice at Rocky Mount where he was affiliated with Park View Hospital. Later he did postgraduate work in Peliatrics at the University of Maryland School of Medicine, was certified by the American Board of Pediatrics, and was a member of the American Academy of Pediatrics. Since 1940 he had been on the staff of the North Carolina State Board of Health, where he served as Senior Examining Physician with the Division of Industrial Hygiene.

Dr. James R. Sparkman, Spartanburg, S. C., died at his home January 4th, following a long illness. Members of the Staff of Base Hospital 65, of World War I, will recall that Dr. Sparkman served with us for a time.

Dr. Walter Boone, of Gaffney, S. C., died suddenly on New Year's Day. He was a graduate of Johns Hopkins University Medical School, class of 1919.

MEDICAL COLLEGE OF VIRGINIA

Dr. Eugene Kellersberger, General Secretary of the American Mission to Lepers of New York, spoke to the senior students in the school of medicine, and to the monthly faculty and staff meeting on January 14th.

Dr. Jacques P. Gray, dean of the school of medicine, spoke to the membership of the Southside Community

Hospital, Farmville, on January 20th.

Dr. William T. Sanger, president, spoke on the Foods for Victory School program sponsored by the Office of Civilian Defense in Norfolk on January 20th.

Dr. Randolph H. Hoge, assistant professor of surgery, has been elected a fellow of the American College of Surgeons.

Dr. J. H. Weatherby, research associate in pharmacology, has been commissioned Lieutenant (s.g.) in the Navy and ordered to Pensacola, Fla., for active duty.

The W. K. Kellogg Foundation of Battle Creek, Mich., has made an additional grant of \$5,000 for student loans in the school of medicine.

Dr. Rolland J. Main, professor of physiology, recently spoke to the Richmond Dietetic Association on Recent Advances in Endocrinology.

Dr. Fred J. Wampler, professor of preventive and industrial medicine, attended the Congress on Industrial Health in Chicago January 11th-13th.

It is expected that the Honorable Colgate W. Darden, Jr., Governor of Virginia, will make the Commencement address on the night of March 20th.

Dr. W. T. Sanger, president, and Miss E. Louise Grant, dean of the school of nursing, attended a conference on pre-medical and pre-nursing studies at the College of William and Mary on January 15th.

Dr. Jacques P. Gray, dean of the school of medicine, and Dr. W. T. Sanger, president, will attend the Congress on Medical Education and Hospitals, Chicago, the middle of February.

Dr. Lewis E. Jarrett, director of the hospital division, attended a meeting of the board of trustees of the American Hospital Association, Chicago, February 8th-14th.

University of Virginia

At the meeting of the Southern Medical Association in Richmond, Va., on November 13th, Dr. D. C. Smith was elected Chairman of Section in Dermatology and Syphilology.

On Wednesday, January 6th, the Winthrop Chemical Company of New York City and Windsor, Ontario, showed in the amphitheater motion pictures on The Treatment of Malaria with Atabrine, and Regional Anaesthesia.

On Friday, January 8th, Dr. W. H. Brown, Dean, School of Public Health, University of North Carolina, gave two lectures; one on Malaria, the other on Parasitic Infections. These lectures were under the auspices of The National Research Council and were given in the amphitheater.



OPTIMUM RATE AND RHYTHM



Many leading cardiologists have learned to depend on Digaten ·Noche' to restore optimum rate and rhythm to the failing

heart. Digalen contains all the cardioactive giucosides of digitalis pur-

purea in highly purified form—none of the fats, resins, or other inert substances of the whole leaf is present. Uniform potency of Digalen is

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m every}$ stage of its preparation. For a dependable digitalis product

when accuracy of dosage is imperative—you can safely rely on Digaten 'Roche.' HOFFMANN-LA ROCHE, INC., ROCHE PARK, NUTLEY, NEW JERSEY

DICILE (NITERIOR

BOOKS

ATLAS OF OVARIAN TUMORS, by GEMMA BARZILAI, M.D., New York City, with a Preface by Fred W. Stew-Art, M.D., Pathologist, Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York City. 258 original illustrations, 45 in colors, on 58 plates, 264 pages, 8½x11. Grune & Stratton, Medical Publishers, 443 Fourth Ave., New York City. Cloth, \$10.00.

Grune & Stratton, Medical Publishers, 443 Fourth Aveatures reproduced in the Atlas were selected from material studied by the author in leading institutions of gynecology in America and in Europe. Detailed legends, printed on the facing pages, make the study easier. The histopathologic characteristics of each tumor are thoroughly described. Gross pathologic features, clinical signs and symptoms, and best treatment are given in sufficient detail.

The Atlas coördinates morphologic appearance with clinical problems in a way to delight the reader whose chief interest is in applying knowledge to the diagnosis and cure of disease.

Contents

- 1. Granulosa Cell Tumor
- 2. Theca Cell Tumor
- 3. Arrhenoblastoma
- 4. Virilizing Lipoid Cell Tumor
- 5. Disgerminoma

6. Teratoma

Adult Teratoma

Embryonal Teratoma

- 7. Fibroma
- 8. Sarcoma and Fibrosarcoma
- 9. Brenner Tumor
- 10. Endosalpingioma
- 11. Seroanaplastic Carcinoma
- 12. Pseudomucinous Adenoma
- 13. Pseudomyxoma Ovarii et Peritonei
- 14. Pseudomucinous Adenocarcinoma
- 15. Mesonephroma
- Secondary Ovarian Tumors (Krukenberg Tumors, Other Secondary Tumors).

PSYCHOSOMATIC MEDICINE, by E4WARD WEISS, M.D., Professor of Clinical Medicine, Temple University Medical School, Philadelphia, Pa.; and O. SPURGEN ENGLISH, M.D., Professor of Psychiatry, Temple University Medical School, Philadelphia, Pa. 687 pages. 1943. W. B. Saunders Co., Philadelphia and London. \$8.00.

This book is based on knowledge of the fact that understanding illness and treating sick people require something more than knowledge of disease. It seems remarkable that a clinician who entered clinical medicine through the doors of pathology would be so impressed by the importance in medicine of disease conditions for which he can find no explanation in pathology, gross or microscopic.

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Chapter heads are:

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A well-balanced book, useful to any practitioner of medicine.

MILITARY SURGICAL MANUALS, VOLUME IV— ORTHOPEDIC SUBJECTS, prepared and edited by the Subcommittee on Orthopedic Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. 306 pages with 79 illustrations. W. B. Saunders Co., Philadelphia and London, 1942. 83.00.

The military surgical manual is well worthy to go along with previously published manuals of this series. Subjects of unusual interest include treatment of ununited fractures, fundamental principles and röntgenologic evidence, compression fractures, fracture dislocations, acute hematogenous osteomyelitis, subacute infections of bone.

INDIGESTION—Its Diagnosis and Management, by Martin E. Rehfuss, M.D., Professor of Clinical Medicine; and Sutherland M. Prevost, Lecturer in Therapeutics, Jefferson Medical College, Philadelphia, Pa. 556 pages with 63 illustrations. W. B. Saunders Co., Philadelphia and London, 1943. \$7.00.

It is refreshing to see a book dedicated to the general practitioner and written for the general practitioner. Also, it is refreshing to see a discussion of indigestion as such. Our British cousins have never given up dyspepsia, and certainly we see cases in which it is hard to find a better name.

Not all indigestion can be explained by disease in the gastrointestinal or the circulatory system. The author deals excellently with all kinds of indigestion, for the which his friend the general practioner is under many obligations to him.

THE 1942 YEAR BOOK OF PEDIATRICS, Edited by ISAAC A. ABT, D.Sc., M.D., Professor of Pediatrics, Northwestern University Medical School; with the collaboration of ARTHUR F. ABT, B.S., M.D., Associate Professor of Pediatrics, Northwestern University Medical School. *The Year Book Publishers*, 104 S. Dearborn St., Chicago. \$3.00.

Among the important questions which this book answers are:

What hypodermic medication is most efficacious in the respiratory depression of morphine in the newborn?

What dose of vitamin K should be given, and how, to the newborn to maintain a normal pro-

thrombin level and prevent or cure hemorrhage?

In case a newborn infant has exomphalos, what would you do?

What is a tied nipple and how is its discress.

What is a tied nipple and how is its diagnosis proved?

What is the pyruvic acid test, and its significance?

At what age is diagnosis of appendicitis most difficult and why?

On what two laboratory findings does diagnosis of congenital hemolytic jaundice rest?

What is a stimulating dose of pertussis vaccine? How should it be used?

Which is best—serum alone, serum and the sulfonamides or the sulfra-drugs alone—for the cure of meningococcic infection?

What is the prognostic significance of rheumatic nodules in rheumatic infection?

What varieties of gonadal derangement in children are most amenable to treatment?

What are three types of infantile cerebral palsy? and how treat each?

Of what type of nephritis is anemia a part?

Which of these three—routine urinalysis, Addis count, and sedimentation rate—detects earliest those cases of glomerulonephritis in which latent or chronic nephritis will develop?

What are the two most important new developments in the treatment of burns?

What is the limit of fluid to be given a dehydrated child per pound per 24 hours intravenously; how much intraperitoneally in 10-20 minutes?

How many deaths occur annually in children under 15 from tonsillectomy?

What are the relative merits of the massive single dose and small daily doses of vitamin D in (1) the cure of rickets, (2) the prevention of dental caries?

Since you do not know the answers to all these questions, you need this book if you assume the health care of children.

THE YEAR BOOK OF INDUSTRIAL & ORTHO-PEDIC SURGERY. Year Book Publishers, Inc., 304 S. Dearborn St., Chicago. \$3.00.

The developments in this field of surgery in the past year, numerous and important beyond the usual because of war, are fully set forth and carefully appraised.

PROBLEMS OF AGEING, Biological and Medical Problems, Second Edition, Revised, Enlarged. E. V. Cowpary, Editor. 900 pages. The Williams & Wilkins Company, Baltimore. \$10.00.

The first edition published in 1939 and reprinted in 1940 focused attention of many investigators, physicians and administrators upon a problem of great scientific and social significance.

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* With men in the Army, the Navy, the Marine Corps, and the Coast Guard, the favorite cigarette is Camel. (Based on actual sales records in Post Exchanges and Canteens.)

_the favorite brand in the Armed Forces*

Since that time three groups have been formed devoted to fact-finding, research formulations, and action. Many members of each group are contributors to the new edition.

It reflects the progress made toward solution of various age-problems. The material of the first edition has been revised and nine entirely new chapters by eleven new contributors have been added.

Problems of Ageing has a wide perspective. It supplies basic biological and medical data for attack upon the less tangible psychological and social aspects of ageing.

The great increase in the number of old persons in our population, and the coming of war making us realize that the old are still useful, makes the knowledge this book contains of great usefulness.

THE INFLUENCE OF ZANTHINE DRUGS AND ATROPINE ON THE MORTALITY RATE AFTER EXPERIMENTAL OCCLUSION OF A CORONARY ARTERY

(G. V. LeRoy, et al., in Amer. Heart 11., 23:637-643, May)

The three drugs which are capable of influencing coronary blood flow are theobromine sodium acetate, theophylline ethylenediamine and atropine sulfate; most effective theobromine sodium acetate. If the animal was "saturated" with the drug as a result of oral administration for several days before the occlusion, and intramuscular injection immediately thereafter, there was no mortality (5 dogs).

The increase in coronary flow after the administration of atropine is less than 50 per cent, but the duration of its action is much longer than that of a single intravenous dose of one of the xanthines, intramuscularly. The dogs which were receiving atropine alone appeared to experience much more pain than when atropine and a xanthine were given.

It should be evident from this work that the sooner coronary vasodilation is achieved, or vasoconstriction prevented, the more beneficial will it be

DUKE TRAINING MORE NURSES

The government asks 55,000 students to enter schools of nursing this year.

Duke University is endeavoring to comply with the government's request by admitting additional classes to increase enrollment in the immediate national emergency. Previously the Nurses School of Duke University has trained one class each year. It is now putting three classes through a complete and thorough course, with another, a fourth one starting on April 1st. There will be, however, room for only fifty students in the spring enrollment.

Although the course at Duke University does not accept high school graduates for entrances, this spring a young woman may enroll if is he has had as much as 15 semester hours of previous college training. She may take the course which awards, after three years of training and an added year of classwork and supervised experience, the B.S. degree in nursing.

A fisherman we know had to be taken to the hospital, ostensibly for treatment of injuries received in a three-hour struggle with a large fish. It is believed that he severely strained himself in his efforts to illustrate the size of his catch.

CHUCKLES

When he applied for work he said that he never got tired. After he got the job he was dozing in the office with his feet on the desk.

Proprietor: "I thought you were a man who never got tired?"

New Deal Pet: "I don't. This doesn't tire me."

"But isn't your son rather young to join the army?"
"Well, he is very young, but then, you see, he is only going to join the infantry."

"No, I'm afraid I can't hire you. We can't use much help just now."

"That's all right, sir. I wouldn't be so much help."

Upon going into the cowshed, the farmer was surprised to find his new hand, a town girl, giving one of the cows a drink from her milking pail.

"What are you doing that for?"

"Well, the milk seemed pretty thin to me, so I thought I'd better put it through the process again."

"Well, Jones, how are you? How you have changed!"
"But my name isn't Jones, sir."
"What! Is your name changed, too?"

Asked the meaning of the term "dressed lumber," a Kansas school-child replied—"Charlie McCarthy."

Ethel: "Of course, you talked about me after I left the party?"

Sibyl: "No, dear; you had covered the subject completely yourself."

"John, I'm sure I heard a mouse squeaking somewhere. "Well, what do you want me to do? Go oil it?" $\label{eq:constraint}$

Election Agent: "That was a good long speech our candidate made on the farming question, wasn'it it?"

Farmer: "It wasn't so bad; but a couple o' nights' good rain wud done a sight more good."

At a certain church, a beautiful latch gate was put up and over it was inscribed—"This is the Gate of Heaven." While the paint was wet, a large printing notice was attached with the words, "Please go around the other way."

Schoolmaster: "Can any boy give me a definition of righteous indignation?"

Small Boy: "Please, sir, be angry without swearing."

"Daddy, did you have many love affairs?"
"No, child, I fell in the first engagement."

A man who had been employed as a floor walker gave up his job and joined the police force. Several months later a friend asked him how he liked being a policeman. "Well," he replied, "the pay and the hours are good, but what I like best of all is that the customer is always wrone."

First Private: "Ya know, I feel like I'd like to punch that hard-boiled sergeant in th' nose again."

Second Private: "Again?"

First Private: "Yes, again-I felt like it yesterday."

OF INTEREST TO DOCTORS

THE FACTS ON FILE YEARBOOK containing more than 500,000 words—420 pages of unbiased, concise news, being a compilation of all 52 of the regular weekly issues published in 1942, is now offered to the public. Price \$20.00. Published by Facts-On-File, Inc., 41 East 42nd Street, New York.

What makes this Yearbook interesting to the medical profession is the fact that among other items facts on "Arts and Sciences" holds a preëminent part. Each week there appear short, unbiased and concise statements regarding the latest discoveries in medicine, surgery and science.

The editorial staff is composed of Bernard Person, President; R. L. Lapica, Secretary; Medical Science, Prof. Edward C. Brenner, Columbia University; Education, Prof. Harry D. Gideonse, President, Brooklyn College; News Analysis, H. V. Kaltenborn, News Commentator; International Finance, Prof. E. W. Kemmerer, Princeton University; Latin America, Prof. Frank Tannenbaum, and many other prominent educators, writers and historians.

FLYING HEALTH, by M. Martyn Kafka, M.D., and published by The Military Service Publishing Co., of Harrisburgh, Penna., has just come off the press. Dr. Kafka. former U. S. Army Air Corps flight surgeon and a specialist in his field, has compiled the most complete and most up-to-date handbook on this vital phase of aviation progress. The book, containing 248 pages, is written in nontechnical language and is a source of information urgently needed by every flier. Of course, it is especially important to the Flight Surgeons and many of our medical men associated with Aviation. Edward C. Greene, who wrote the foreword, says: "The field of Aviation is large and growing. Now that our military and commercial airmen are flying over practically the whole world, the special job of the Flight Surgeon has enormously expanded. Subjects discussed are: Showing Fatigue, Relaxation, Exercise, Food for Thought, The Pilot's Heart, The Eagle's Eye, Ear, Nose and Throat, Dissipations, Psychology for Pilots, Tropical Aviation, Arctic Aviation, Forced Landings, Life in Altitude, Parachute Jumps, Air Accidents, Diseases the Pilot Should Know, Medical Requirements for Military Fliers.

INTERNATIONAL SURGEONS' ASSEMBLY

On June 14th, 15th and 16th New York City will be host to the Fellows and Members of the International College of Surgeons, which will hold its Eighth National Assembly at the Waldorf Astoria Hotel. The last Assembly was held in Denver, Colo., and the previous year in Mexico City.

Many outstanding surgeons from Latin American countries have been invited to attend and read papers on their civilian and military medical experiences. Famous surgeons in the various branches of our service will give the attending physicians and surgeons the benefit of their work.

The International Officers of the College are: Dr. Fred H. Albee, New York City, President; Dr. Desiderio Roman, Philadelphia, President-elect; Dr. Andre-Crotti, Columbus, Ohio, Past President; Dr. Albert Jirasek, Prague, Past President; Dr. Chevalier L. Jackson, Philadelphia, Vice-President; Dr. Manuel A. Manzanilla, Mexico City, Vice-President; Dr. Herman De Las Casas, Venezuela, Vice-President; Dr. Ali Ibrahim Pascha, Vice-President; Dr. Ali Ibrahim Pascha, Vice-President; Dr. A. M. Dogliotti, Italy, Vice-President; Dr. Max Thorek, Chicago, Executive Secretary; Dr. Wm. Seaman Bainbridge, New York City, Treasurer.

THE THEATRICAL WORLD

THE THEATRICAL WORLD

Many of the fine plays and fine actors are having long, record-breaking runs. Of the comedies, "Life With Father" is still running since its opening in November, 1939. "My Sister Eileen" since December, 1940, "Arsenic and Old Lace" since January, 1941, "Junior Miss" and "Blithe Spirit" since November, 1941, and "Angel Street" since December 5, 1941. "Uncle Harry," a creepy murder melodrama, still holds forth with that grand team, Joseph Schildkraut and Eve LeGalliene.

In musicals still running there are "Sons 'o Fun" since December, 1941, "By Jupiter," that funny musical based on "Warrior Husband" and starring Ray Bolger, since June, 1942. Then there is "Rosalinda," a more recent opening but which promises a long run. "Rosalinda" is a delightful version of Johann Strauss' "The Bat" and is produced with all the opulence of the old time operetta also beautifully sung.

Of the newer plays there is that splendid revival of "Counselor-at-Law," with Paul Muni as in the original. Maxwell Anderson's "Eve of St. Mark" continues to move audiences with its simple story of a farm boy turned soldier. "The Pirate" is an elaborate extravaganza in which the Lunts seem to have as good a time as the audience.

Of the ten new plays which arrived on Broadway during Christmas and New Year's week, many have already closed, but "The Doughgirls," at the Lyceum, seems destined for a long run, successful run. "The Doughgirls" has a timely topic, about overcrowded, wartime Washington at It lampoons broadly gold-braided official Washington as well as the career girls and "nuts" and is packed with three acts of laughs. It was written by Joseph Fields, the same Mr. Fields who is co-author of two other current successes, namely, "My Sister Eileen" and "Junior Miss." It is produced by Max Gordon and staged by George S. Kaufman.

"The Three Sisters," a drama by Anton Chekhov, at the Barrymore Theatre, produced by Katharine Cornell and staged by Guthrie McClintic, has been hailed by the critics and public "An event of rare quality and distinction." Cue says: "Not in this generation has the theatre seen so heautifully interrated and impeccably perfect a set of performances as are combined in Katharine Cornell's brilliant production of hope, heartbreak and frustration." If ever there was a perfect cast for a play, this is it—Judith Anderson, Ruth Gordon, Getrude Musgrove, Edmund Gwenn, Dennis King, Alexander Knox, McKay Morris and, of course, Katharine Cornell.

To the doctor who has but one evening for the theatre, this play will be especially rewarding. Cue has likened it to a surgical analysis of the Russian's philosophical broodings. The all-star cast presents Chekhov's revealing character penetration with theatre magic.

"The Skin of Our Teeth," at the Plymouth, is for doctor who prefers to spend his evening in fantastic rmusements. The play is reported nightly to start every one off into discussions which cary over to cocktail parties, dinner tables, even offices. This play has to say about man's escape from extinction for 500,000 years. It is done in grand style by a cast of 40 headed by Tallulah Bankhead and Frederick March and his wife, Florence Eldridge, who are splendid together on the stage.

Proud Father (to bank manager): "I want to see you about opening an account for the new arrival at our house. How shall we distinguish it from my account?"

Manager: "Suppose we call it the Fresh Heir fund."

"I had a little balance in the bank two years ago but then I got married and now—"

"Love makes the world go round, doesn't it?"

"Yes, but I didn't think it would go around so fast it would make me lost my balance."

Doctor to Stenographer: "I would suggest that you do not write letters to your boy friend during office hours. Doctor Jones said that he had received a letter stating that his patient had a chest full of love and kisses instead of pleurisy with effusion."

"May I ask you the secret of success?"

"There is no easy secret. You must jump at your opportunity."

"But how can I tell when my opportunity comes?"

"You can't. You have to keep jumping."

A man was fumbling at his keyhole in the small hours of the morning. A policeman saw his difficulty and came to the rescue.

"Can I help you to find the keyhole, sir?" he asked.
"Thash all right, old man," said the other, cheerily,

"Thash all right, old man," said the other, cheerily "you just hold the house still and I can manage."

Rounder: "You know, honey, I have the cutest little apartment."

Sweetie: "Well, let's not go into that."

He: "Your husband refused to recognize me at the dance last night. I suppose he thinks I'm not his equal."

She: "Nonsense, of course you are. Why he's a conceited idiot!"

Traffic Cop: "Don't you know what I mean when I hold up my hand?"

Lady (meekly): "I ought to. I've been a school teacher for ten years.

Student—Yes, sir; I always carry my notes in my hat. Prof.—I see, knowledge in a nut shell.

To avoid that run-down feeling, cross streets carefully.

Soldier (finding a wasp in his stew): "Hi, what's this?" Mess Orderiy. "Vitamin bee."



RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT. M. D., Editor, Charleston, S. C.

LOWER HALF HEADACHE

A LARGE NUMBER OF PATIENTS referred for refraction, sinus disease, etc., are found to be suffering from lower-half headache, and to have been entirely undiagnosed, except in those cases which are labelled migraine. A report is made¹ of 75 cases in all of which were demonstrated to a greater or lesser degree symptoms referable to the sphenopalatine ganglion.

The average patient complained of headache of varying intensity in different attacks, more often starting in the left frontal region than in the right, in some instances this is preceded by aura but often without warning. The syndrome starts as a dull, gradually-increasing ache and finally involves the whole cranium, and, at its greatest height, nausea and vomiting.

Pain, often tenderness, over the frontal sinus is often diagnosed sinusitis. Tenderness 4 cm. behind the mastoid, stiffness of the muscles of the neck posteriorly, pain at times to one or both shoulders, to the midthoracic region, producing a spasm of the muscles along the spine. Pain in the upper jaw is quite common, simulating toothache. Earache, occasionally pain in the throat, vertigo and hyperacusis are common. The least sound increases the intensity of the pain often a congestion of the conjunctiva on the side on which the pain is most severe. Pain is described as boring, deep in the orbit.

Eosinophilia has been demonstrated in nasal smears of a number of these patients.

The application of cocaine directly to the sphenopalatine ganglion relieves the pain and is diagnostic of the condition. This application can be easily made with cotton soaked in cocaine solution applied above and behind the middle turbinate bone and into the sphenopalatine fossa on the lateral wall of the nose. In some instances the pain has been relieved by shrinkage of the mucous membranes.

One application of cocaine may be sufficient to completely abort an attack. Silver nitrate has also been used with relief of symptoms. This produces considerable irritation. Pure phenol has been used with reported good results. Alcohol with phenol injected into the ganglion is followed by a short period of increased pain, following the distribution usually manifested. This is followed by a complete cessation of pain.

Recently histamine diaphosphate has been used with encouraging results.

^{1.} Moray Girling, Longview, Wash., in Northwest Med., Dec.

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JAMES M. NORTHINGTON, M.D., Editor

VOL. CV

CHARLOTTE, N. C., MARCH, 1943

No. 3

President's Address

FOR

THE TRI-STATE MEDICAL ASSOCIATION OF

THE CAROLINAS AND VIRGINIA

GEORGE R. WILKINSON, M.D., Greenville, South Carolina

MR. CHAIRMAN, my dear Fellow Members of the Tri-State Medical Association:

For nearly half a century your president has addressed you at the annual session. This year an all out war is on, and in conformity with the wishes of those who guide our ship of state we will hold no annual assembly. Those who love the old Tri-State will meet in spirit. When the great conflict has come to a victorious end, we will meet again. Old friendships will be renewed, and, with a new start, this Association will build anew an even greater organization which will take its rightful place in States that make up so great a part of the Union. Much in the past and more in the future holds these three old liberty-loving States together.

The practice of medicine will be affected in many ways by the war. The changes may be, in the main, better for the profession and the people, too. The changes that are just around the corner will largely be the result of our own strength and weakness. Many are thinking along constructive lines in other activities, making plans, devising machinery and training personnel in a limited way so the stage will be set when our Government goes out of the business of making war. What are the plans of the medical profession to meet the new situation that the close of hostilities will bring? No one can forecast just what things are going to be like, yet a

little speculation guided by some of the developments which followed World War I may be worth considering. Careful planning helps even if the plans are not carried through with mechanical precision.

The first immediate problem will be demobilization. This offered no difficulty after the first war and should not be a serious problem in itself. The need for physicians is sufficient to take care of those coming home. A year or more will be required to demobilize the medical units which will be among the last to be mustered out. The considerable number of physicians who will elect to remain in the service will likely be sufficient to take care of the much expanded army and navy that we will be compelled to maintain. Those on the home front will welcome the others home; and Godspeed the day.

The second problem concerns the redistribution of medical personnel. We have had enough good doctors in our country to adequately serve the needs, but they are somewhat like baby chicks since they are disposed to overcrowd each other, even to the point of suffocation. This problem is not new. We cannot blame either the war or the New Deal for its existence. Perhaps some careful planning while the clay is wet after the war will aid in the solution of this problem.

The reëstablishment of medical standards which have been altered to suit the war effort will not be difficult. Much will depend on the investments of the several universities privately financed. The state schools will have the advantage of taxes. With a swing to the Right in national politics, the older, independent schools will flourish. With a swing to the Left, the state schools will fare no better than now, and perhaps have the standards set in legislative halls instead of faculty meetings. Those who enjoy the fraternity of this Association can be counted on to hold up the standard and demand ever better training for our young men and women.

The war has brought home the fact that we do not have enough trained psychologists, psychiatrists and pathologists. The answer to quackery and charlatanism is better training of more persons in psychology, psychiatry and pathology. This problem too is not new, but the war has made the need more apparent. For pathologists there has always been a greater demand than supply. The backbone of the hospital is the pathologist. I have often wondered if an institution should be called a hospital if it did not have a pathologist. This problem could be solved, perhaps, by broadening the base of the word pathologist. In school one thinks of a pathologist only in terms of the morgue and tissue work. In the smaller hospitals the pathologist is mainly a clinical pathologist and has to do not only with the postmortems but also the conduct of the clinical laboratory, and acts as a consultant in every sort of case.

Technicians are indispensable but should always be working under a person who knows more than they do. The reverse is often the case to the detriment of the patient. When the men come home from the army and navy hospitals, they are going to be more dependent upon competent laboratory work than ever before. We will have to provide more pathologists and convince the doctors of the necessity of utilizing their services. Technicians should be taught in hospitals where they will stay long enough to be experienced as well as trained. Why not have a course leading to the Degree of Bachelor of Science in Medical Technology? This arm of the profession should be reorganized and so dignified. No one will question the wisdom of those who began training nurses. We simply could not get along without them. Training-school standards, too, should be aided and planned for. Nurses and technicians in their essence exist to save doctors' time. There is another part of the field where some organized training would help. Here I speak of the woman who mans the front office, the one who takes the dictation for making out the case record, writes the directions, the prescriptions, calculates the diets, keeps the books and perhaps even makes out the tax returns. Will it always be necessary to train up a new person in these several duties every time a change is made, for whatever reason? The work in the front room is just as necessary and dignified as in any other department in a doctor's offices. Women trained along these lines would save much time and add to a doctor's efficiency. Could this training not be obtained in a class room to better advantage?

Following World War I, a wave of hospital construction took place. During the present national administration such work has been further increased. Veterans' Bureau hospitals have sprung up all over the country, and twenty-five years following World War I more hospital beds than ever have been occupied by veterans. Picture what will follow the present conflict, if you please, when twelve or more million veterans are added to the list! The present facilities will not care for more than one-third of the veterans who will need such care. Hospital care for tuberculous veterans, it is hoped, will be relatively less due to the advances both in prevention and treatment, but this advantage will likely be offset by the number of insane.

Much more hospital facilities will be needed at home. With smaller families, lack of servants, greater wealth, more education and the increase in hospital insurance, the present bed capacity is going to be inadequate. Here, some advanced thinking and planning will be of decided benefit. The absorption of men into civil pursuits will be gradual. During this period, the cities, towns and communities that already have well-thought-out plans in the blue-print stage will likely have little or no difficulty in obtaining government aid. Studies as to needs should be made by qualified experts in the field. Buildings should be started promptly. Here the central government could assist greatly by having master plans for hospital construction. Surely our government has spent much and has gained experience by having built more hospitals than any other organization in the world. This wealth of knowledge could be passed along to great advantage, especially to communities with little experience in hospital building and management.

People sometimes believe that much virtue resides within hospital walls, or rather, that a hospital is a sort of temple in which cures are obtained in some miraculous way. We know better. Should we not have some minimum standards that are simple and honest, so that those who are ill will have something to go by besides the mere word, hospital? All hospitals are not alike but they would be more alike if proper personnel were recuired before financial aid is given. A hospital without a competent, clinical pathologist, appreciated and his services constantly utilized by clinicians, is all front and no back. A community is

far better off with no hospital than with a poor one. When the war is over, men and women who have had further postgraduate experience of good hospital work will be scattered all over the country With their assistance much can be accomplished.

We can take a big hand in shaping the future in medicine if we plan carefully and in detail well in advance. Changes are coming. People are ready and willing to pay for better medical care. Are we going to do the planning and manage the work? Or are we, by our own inertia, going to have others direct our labors?

DENTAL-PLATE, WITH CENTRAL INCISOR AT-TACHED, IMPACTED IN OESOPHAGUS THREE MONTHS, REMOVED PER VIAS NATURALES

(Joseph A. White, Richmond, in Va. Med. Semi-Monthly, 1898)

THREE MONTHS AGO, whilst asleep, a toothplate to which one tooth—an upper central incisor—was attached, became loose and was swallowed.

Foreign bodies passing into the œsophagus are liable to lodge at one of the three constricted portions of this tube, viz., in the region of the cricoid cartilage; in the middle third on a level with the first rib where the left bronchus crosses the œsophagus; or where it passes through the diaphragm. Bodies may also lodge higher up at the cricoarytenoid articulation, or between the tongue and epiglottis.

Dr. Paulus Irving of this city was once consulted by a patient who had been treated by an old physician for diphtheritic patches in the pharynx. Dr. Irving found a plate lodged in such a way that the teeth lay up against the back wall of the pharynx in plain view when the tongue was depressed, and he promptly removed it with a pair of forceps. The old doctor had taken the teeth for diphtheritic patches, and daily cauterized them, his mistake being due to defective eyesight and a slight excess of whiskey, which he generally carried.

You will observe that the plate in my hand is 35 by 22 mm., and that it is armed on each side from the tooth back to the point of the wings, with five sharp projections. When the patient awoke and became aware of what had happened, he was examined by several physicians and they decided that if he had swallowed the toothplate, it had passed into the stomach, notwithstanding the fact that he could only swallow liquid food, and that in a few days his voice became dysphonic. These symptoms were attributed to the irritation caused by abrasions or wounds of the esophagus from the passage of the foreign body.

When I first examined his throat, on February 6th, inspection with the mirror revealed nothing but a partial medema of the laryngeal mucous membrane, and inability of the vocal cords to adduct properly. Attempts to pass even the smallest esophageal sound arrested at a point eight inches from the central incisors, or a little below the cricoid cartilage.

The question of esophagotomy at once presented itself, but I decided to postpone its consideration, because this operation is attended by a mortality of 25 per cent, and because I never resort to any surgical procedure, not immediately demanded, as long as there is any hope of accomplishing the result by other means. The patient was in no immediate danger, and could wait until other measures failed.

The next day I succeeded, after several trials, in passing a slender uterine probe beyond the plate through a small

opening on the left side, and followed this by a housie somewhat larger (2 mm.) 20 per cent sol, cocaine on cotton attached to the flexible utrine probe enabled me to pass a bougie 4 mm. in diameter through the opening. In three or four days, I was, by this method of gradually enlarging the opening, able to pass the flexible cophageal forceps below the plate, open the claws to their utmost limit, and by throwing them to the right under the plate and pulling upward, I attempted to dislodge it from its fastenings. Every attempt was followed by bloody expectoration. These efforts were repeated daily, until on February 13th, I was satisfied that I had loosened and turned the plate partially over, as I could pass the forceps with more ease. I introduced a bristle probang with 7-mm, bulb and spreading the bristle, gave it a quick jerk which succeeded in lifting the plate above the cricoid where it lodged for a few moments before being ejected by the patient, who had bent over with his head on the floor to prevent an attack of threatening suffocation.

Deaths have occurred from ulceration, abscess, stricture, perforation of the cophageal wall and neighboring vessels, perforation of the pericardium, and of the pleural cavity, and from caries of the vertebræ—all these results of foreign bodies in the gullet. That it might have become encysted is evidenced by McLean's case (N. Y. Medical Record, 1884), where a toothplate had remained in the cophagus ten years before an operation was performed. Oesophagotomy was done because of emaciation, regurgitation of food etc., and the whole of the plate, which was 1½ by 1¼ inches, was was encysted except the point of one wing. It was removed but the patient died.

The case exhibited shows that it is best to defer surgical interference until we are satisfied of the locality of the foreign body and that it cannot be otherwise extracted.

Savitsky reports an amusing case of an œsophagotomy, done for supposed impaction of a toothplate in the œsophagus, in a patient who waked up from a nap, found his teeth gone, thought he had swallowed them, and developed all the symptoms of impaction, even including an apparently impermeable obstruction and great pain. As no toothplate was found in the œsophagus, he was told that it had passed into his stomach, when at once all his symptoms were transferred to that organ. They all disappeared, however, when the servant produced the teeth which she had found under the lounge on which he was sleeping.

POSPOPERATIVE VITAMIN DEFICIENCIES

Prolonged illness followed by sharp limitation of diet during preoperative preparation, especially for surgery of the gastrointestinal tract, may result in vitamin depletion. Most parenteral fluids contain glucose, which sets up an additional drain on the vitamin B stores. Postoperatively, nausea and vomiting frequently necessitate complete interdiction of food for days at a time.

This sequence of events was clearly reproduced in a case recently reported (Ann. Int. Med., 18:110, 1943). The patient developed a sore tongue and became uncoöperative, disoriented, and confused. A dramatic change ensued after administration of riboflavin and nicotinic acid with complete disappearance of the lesions within five days.

A number of laboratory procedures have been developed in recent years to augment the clinical diagnostic approach to vitamin-deficiency disease, but many of them require special equipment and are not easily adaptable for routine clinical use. Physicians may obtain a list of vitamin values of foods and a bibliography of important and generally informative papers on vitamins by writing Eli Lilly and Company, Indianapolis.

Orthopedic Problems at Station Hospital, Morris Field

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THE PURPOSE of this paper is to discuss crushing pelvic injuries, their complications and treatment. There are numerous orthopedic cases to be dealt with at the Morris Field Station Hospital, Charlotte, N. C., but crushing pelvic injuries have been a major problem. Two cases are presented in illustration:

Patient No. 1 is a 34-year-old white man. He was first seen at the Station Hospital at 7:50 p. m. on November 24th, 1942, ten minutes after an airplane accident. He was conscious, complained of severe pain in chest and pelvis, showed great difficulty in breathing, and presented a picture of severe, almost fatal, shock. His blood pressure was 40/0, hardly perceptible, and a radial pulse could not be palpated.

After ascertaining whether or not he had a head injury, a quarter of a grain of morphine was given intravenously. This quieted him somewhat. Pure oxygen was started, using a CO2 absorbing closed system. 1000 c.c. 5 per cent glucose, in normal saline was started intravenously. A rectal examination was negative except for tenderness in the right sacroiliac region. A catheter specimen of urine was negative for blood. Plasma was started intravenously as soon as obtainable, and warm blankets and heat applied. The lacerations on his legs were cleaned, debrided and sutured after sulfanilamide powder had been dusted into the wounds. By this time the patient's condition had improved to such an extent that x-ray films of the chest, spine and pelvis were taken. He was found to have:

- A crushed chest with fractures of the 6th, 7th, 8th, 9th and 10th ribs on the right, and 6th and 7th on the left. These fractures were in the mid-axillary line.
- 2. Fracture of the neck of the right scapula.
- Fracture dislocation of the right sacroiliac joint.
- Complete fracture of the left superior and inferior rami of the pubis.
- 5. Lacerations and contusions of both legs.
- Compression fractures of the 5th and 6th dorsal vertebrae.
- 7. Some hemorrhage into his lungs.
- Emphysema of the chest wall, bilateral, moderately severe.

After taking the x-rays the patient was put to bed in an oxygen tent. Another 500 c.c. of plasma was given, followed with 500 c.c. of blood. During the night his condition was critical at times with a blood pressure ranging from 100/60 down as low as 60/40. Cardiac stimulants were started about 5:00 a. m. and at 7:00 a. m. another 500 c.c. of blood was given.

On the afternoon of November 27th (48 hours after admission) the respiratory rate rose to 40, the pulse to 154, and the patient seemed in extremis. Physical examination showed the heart and mediastinum to be displaced to the left side. A needle was inserted into the left pleura and 150 c.c. of air injected. Following this his condition improved. After five days he was gradually removed from the oxygen tent and his progress since has been satisfactory. Six weeks after the initial injury the patient developed a complicating thrombosis of the right leg.

His fractures were treated in the following manner: Early passive and active rotation of the right shoulder was started using circumduction exercises in a clockwise movement. These exercises were carried out daily, gradually increasing the diameter of the circular movement until after a period of five weeks the patient had regained almost normal shoulder joint motion.

The right lower extremity was placed in a homemade Braun-Böhler frame, and skin-adhesive traction was used mainly as a fixation measure.

The fractures of the dorsal spine were treated with a home-made hyper-extension frame made out of sand bags and boards.

Summarizing this case, it presents the profound shock-like state that is often seen when complicating chest injuries are associated with crushing pelvic injuries.

In our opinion, the optimum time to attempt to set the fractures did not present itself until 12 or 14 days following the injury.

The therapeutic effect of injecting air into the pleural cavity for atelectasis with displacement of the mediastinum may or may not be of value. We are all familiar with the value of a bronchoscope for this, and another method which is equally as

effective is to aspirate the trachea by introduction of a No. 16 French catheter.

We feel that this patient will again be an effective member of our fighting forces.

Patient No. 2 is a white male, aged 29, admitted through the Emergency Room to the Station Hospital on July 19th, 1942, at about 2:00 p. m. following a head-on collision in which he was the occupant of one of the trucks.

Upon admission the patient immediately presented a picture of profound shock. Anti-shock treatment was instituted without delay. 500 c.c. of blood plasma was given intravenously and this was followed by 500 c.c. of 5 per cent glucose in normal saline.

On examination it was found that the patient exhibited marked tenderness, pain and crepitation about the pelvis. Portable x-ray films were made to determine the extent of the pelvic injury. Findings showed a crushing injury with a double ring fracture of the left side of the pelvis. Bladder catheterization revealed evidence of anterior urethral trauma. A catheter was anchored and the bladder was irrigated very four hours for a period of seven days.

After three hours the general condition of the patient, which had been immediately improved by the infusions of plasma and fluids, had again reverted to the picture of irreversible shock. At this point it was decided to inject a 1 per cent solution of novocaine into the fracture sites in the pelvis which were immediately accessible. With the consequent decrease in pain the patient responded more readily to the anti-shock therapy consisting of repeated plasma infusions and blood transfusions, morphine, hot water bottle, and blankets. At the end of 48 hours this patient was considered to be out of danger, although the optimum time for handling the fractures, in our opinion, had not presented itself.

The treatment of the fractures in this case was not considered until nine days following the initial injury. Then, a balanced Thomas splint with twoway adhesive traction was utilized on the left lower limb for fixation purposes.

Summarizing this case, it is of special interest because of the dangers of complications that develop in pelvic injuries, namely, shock and severe bladder and urethral injuries. It is of further interest because of the importance of using novocaine injections to reduce pain as an adjunct in combatting shock in severe orthopedic injuries, as expounded by Böhler.

This patient was up on crutches in three months, with partial weight-bearing in four months, full weight-bearing in five months, and he was assigned to a limited duty status in six months.

SUMMARY

Crushing pelvic injuries are usually accompanied by a severe form of shock. We feel that in orthopedic injuries shock is more quickly combatted if the patient is free from pain. To gain this end, in addition to the usual anti-shock measures, we use 1 per cent novocaine injections into the hematomas about the fracture sites. The dangers of overtreatment of shock should be stressed as many a patient's demise has been brought about by too-early and too-vigorous institution of anti-shock treatment. Especially is this so in treating shock when pelvic injuries are further complicated by crushing chest injuries, and any form of intravenous therapy should be given with due caution. The mortality rate in crushing pelvic injuries ranges from 15 to 20 per cent, and, associated with crushing chest injuries, is even higher.

Complications to be watched for in connection with pelvic injuries are:

- 1. Urethral trauma
- 2. Bladder trauma
- 3. Rupture of the rectum or intestine
- 4. Paralysis of the sciatic nerve
- 5. Edema and thrombo-phlebitis
- 6. Fatal hemorrhage from rupture of the great vessels in the pelvis.

The most common of these complications are urethral and bladder injuries, and edema and thrombo-phlebitis of the lower extremities.

A PEAK YEAR IN AMERICAN MARRIAGES (From The Diplomate, Feb.)

The Statistical Bulletin of the Metropolitan Life Insurance Company states that American marriages will record a new high in 1942, with a total of 1,800,000. This is a gain of 80% on the total for 1941. The cities mentioned are those with a population of 100,000 or more and include one-third of our population. The rapid expansion in defense industries and the presence of great naval and military training stations are probably chiefly responsible for the upswing in many sections.

Figures by groups of States:

New England	_	3.5
Middle Atlantic		2.6
East North Central	~~~	5.2
West North Central	+	13.2
South Atlantic	+	35.7

(Cities and regions with records which for one reason or another are of special interest:)

Norfolk (Report had not been received

at the time of going to pres	SS)
Richmond	+ 24.3
Charlotte	+ 36.2
Atlanta	+ 27.7
Jacksonville	+ 70.0
Miami	+ 50.3
Tampa	+ 78.6
East South Central	+ 6.7
West South Central	+ 40.7
San Antonio	+ 72.5
Mountain and Pacific	+ 51.7
Tacoma	+105.8
San Diego	+176.1

Laterality Dominance in the Koran*

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REFERENCES to laterality dominance in the Koran are many and significant. They do not possess the all-embracing character of those found in the Old Testament. In the latter work the compass is broader. There are passages which indicate that the ancient Hebrews included in their program not only the right hand, but the entire right side of the body. This impression is unmistakable when we read those references to laterality dominance which are not only the most precise but the most significant.

We find this conception in full bloom when we inspect the instructions given by the Lord to Moses and transmitted by him to the congregation regarding the sanctification of Aaron and his sons. These ceremonies obviously refer to the induction of Aaron and his sons into the Jewish priesthood. They took place before the Jews congregated in the Temple. Such events were endowed with great importance and every step in the ritual had meaning.

That laterality dominance is described as playing so great a part in these ceremonies informs us how deeply such convictions were rooted in the Hebrew mind. Moses brought forth the Ram of Consecration after having clothed Aaron and his sons with the robe, the ephod, the mitre, the golden plate and the holy crown. The narrative continues (Leviticus 8:)

23. And he (Moses) slew it; and Moses took of the blood of it, and put it upon the tip of Aaron's right ear, and upon the thumb of his right hand and upon the great toe of his right foot.

24. And he brought Aaron's sons, and Moses put of the blood upon the tip of the right ear, and upon the thumbs of their right hands and upon the great toes of their right feet; and Moses sprinkled the blood upon the altar round about.

25. And he took the fat and the rump, and all the fat that was upon the inwards, and the caul above the liver, and the two kidneys and their fat and the *right shoulder*.

Similar instructions regarding a ceremony of sanctification are to be found in other chapters of

*The authors express their gratitude to Mr. Marmaduke Pickthall from whose instructive book, The Meaning of the Glorious Koran, an Explanatory Translation (Alfred A. Knopf, New York, 1930), all the quotations and references included in this paper have been taken. Leviticus. They contain in slightly different terms the same precise directions. We have thought that this one quotation would suffice to achieve our purpose. In other parts of the Scriptures are found verses indicating the Hebraic belief that the right side of the body was the precious side—the holy side we might say. Some of these references do not confine their attention to the right hand, but embrace the right eye as well.

We can only imagine how great a spiritual effect such arbitrary divisions of the body by a line drawn down the middle must have had upon the minds of the adherents of this faith.

In the Koran we find convictions of the same tone but by no means expressed in such a broad scope. The Koran glorifies the right side of the body to the extent that it endows the right hand with all the powers of good. Nowhere could we find any inclusion of either the right eye or the right foot in this magic circle. When it describes possession, by inference it calls upon the right hand as the activating agent even more specifically than does the Old Testament. As we shall shortly discover, division into the worthy right and the unworthy left is not confined to a personal application, but is applied with great force and unmistakable meaning to collections of beings as well—to assemblies; to congregations.

We gathered long since that, with the Hebraic sanctification of the right hand, all priestly powers were united in this member. We were surprised that such information was not stated more explicitly in regard to exploits of the various Prophets. In only one instance that we have been able to discover is this done, that in Isaiah 63:12, describing the escape of the Hebrews from Egypt—

That led them by the right hand of Moses with his glorious arm, dividing the water before them, to make himself an everlasting name.

The Koran gives us a wealth of information regarding the handedness of Moses which is not to be found in the Old Testament. This information is of much value. It sheds light with inescapable conviction upon the humanity and trials of this great figure in history. As we hope to make plain, it brings forward an analysis of this being for our consideration comparable to that which confronts us in a patient of our modern medical world; a world in which the relation of laterality dominance

to human sickness is just attaining appreciation.

The simpler references to laterality dominance in the Koran are those which define possession. This method of allusion occurs many times. In it the right hand is seized upon as the propertyholding part of the body. This is a method which seems to be distinct in this book. No similar allusion to the use of the right hand as an agent of possession for the entire personality can be found in the Bible. The dexter side of the body is thus defined as the agent of the spirit. There is never found any change in these exhortations. Never once does the left hand enter into the discussion. The constant repetition of the familiar words bespeak a finality which is unmistakable. Women 24 (Surah IV, Revealed in the fourth year of the Hejirah) gives us an example of this kind.

And all married women are forbidden unto you save those (captives) which your right hands possess.

Again in the following chapter. Women 25

And whoso is not able to marry a free, believing woman, let them marry from the believing maids whom your right hands possess.

From time to time a variation occurs in the verbiage. This makes definition of a different form of possession, one in which there has been some type of mutual agreement. Such a relationship is brought out in *Women 33*

And unto each we have appointed heirs of that which parents and near kindred leave; and as for those with whom your right hands have made a covenant, give them their due. Lo; Allah is ever Witness over all things.

The Bible is filled with indications that the Hebrews not only bestowed precedence on the right side of the body, but believed that all that was good came to the nation or to the individual from that direction. God was seen at the right. Personalities of great power and influence stood to the right so that their potentialities flowed from that point of the compass. References to this state of affairs, while not so numerous in the Koran, are nevertheless of unmistakable authenticity. Supernatural commands originate from this source. Appointments are made from the same direction. A number of forms are used, some more explicit than others. A few will serve our purpose.

The Heights 17 Surah VII Revealed at Mecca

Then I shall come upon them from before them and from behind them and from their right hands and from their left hands, and Thou wilt not find most of them beholden (unto thee).

The passage is chosen because it is the only one

found in which any reference is thus made to the benefits that may attach to the sinistral side of the body. It will be noted that the right side is mentioned first. In the two following excerpts dextrality comes into its own.

Mary Surah XIX An early Meccan Revelation

- 51. And make mention in the Scripture of Moses. Lo; he was chosen, and he was a messenger (of Allah), a prophet.
- 52. We called him from the right slope of the Mount, and brought him nigh in communion.
- 53. And we bestowed upon him of Our mercy his brother Aaron, a prophet likewise.

The reasons why Aaron was bestowed upon Moses are brought out later in the narrative. They were weighty ones. The manner of directing from the right was brought out in a dramatic fashion when Allah sought communication with his servant.

The Story Surah XXVIII Revealed at Mecca

- 29. Then when Moses had fulfilled the term, and was travelling with his housefolk, he saw in the distance a fire and said unto his housefolk; Bide ye (here). Lo; I see in the distance a fire; peradventure I shall bring you tidings thence, or a brand from the fire that ye may warm yourselves.
- 30. And when he reached it he was called from the right side of the valley in the blessed field, from the tree. O Moses; Lo, I, even I, am Allah the Lord of the Worlds.

That the light of Salvation comes from the right is brought out in the two following verses.

Iron Surah LVII Revealed at Al Madinah

12. On the day when thou (Muhammad) wilt see the believers, men and women, their light shining forth before them and on their right hands (and wilt hear it said unto them); Glad news for you this day; Gardens underneath which rivers flow, wherein ye are immortal. That is the supreme triumph.

Banning Surah LXVI Revealed at Mecca

8. Allah will not abase the Prophet and those who believe with him; Their light will run before them and on their right hands; they will say; Our Lord; Perfect our light for us and forgive us. Lo; Thou art Able to do all things.

The all-powerful accomplished their deeds with their right hands. To this side of their bodies were directed the eyes of the true believers.

The Troops Surah XXXIX Revealed at Mecca

67. And they esteem not Allah as He hath the right to be esteemed, when the whole earth is his handful on the Day of Resurresction, and the heavens are rolled in His right hand. Glorified is

He and High Exalted from all that they ascribe as partner (unto Him).

The Koran never dodges the issue that the right hand represents the sum total of the personality. It and it alone earns whatever praise is to be awarded. By the same token it is made answerable for any occasion of condemnation that might arise. This is made plain in the following passages.

Counsel Surah XLII Revealed at Mecca

30. Whatever of misfortune striketh you, it is what your right hands have earned. And He forgiveth much.

The Spider Surah XXIX Revealed at Mecca

- 46. And argue not with the People of the Scripture unless it be in (a way) that is better, save with such of them as do wrong; and say: We believe in that which hath been revealed unto us and revealed unto you; our God and your God is One and unto him we surrender.
- 47. In like manner We have revealed unto thee the Scripture, and those unto whom we gave the Scripture aforetime will believe therein; and of these (also) there are some who believe therein. And none deny our revelations save the disbelievers.
- 48. And thou (O Muhammad) wast not a reader of any scripture before it, nor didst thou write it with thy right hand for then might those have doubted, who followed falsehood.
- 49. But it is clear revelations in the hearts of those who have been given knowledge, and none deny nor revelations save wrong-doers.

The writer of the Koran was eager to inform us that the dextrality of Moses was not a solitary instance, but was a property common to others of the Hebrew Prophets. The struggles of Abraham are described as he faced the problem of the false gods.

Those Who Set the Ranks Surah XXXVII Revealed at Mecca

- And lo, of his persuasion verily was Abraham.
- 84. When he came unto his Lord with a whole heart:
- 85. When he said unto his father and his folk; What is it that ye worship?
- 86. Is it a falsehood—gods beside Allah—that ye desire?
- 87. What then is your opinion of the Lord of the Worlds?
- 88. And he glanced a glance at the stars
- 89. Then said: Lo; I feel sick;
- And they turned their backs and went away from him.
- 91. Then turned he to their gods and said; Will ye not eat?

- 92. What aileth you that ye speak not?
- 93. Then he attacked them striking with his right hand.
- And (his people) came toward him, hastening.
- 95. He said: Worship ye that which ye yourselves do carve
- 96. When Allah hath created you and what ye make?

The writer takes pains to insist upon the conventional form of laterality dominance, in this, one of the important acts of the Prophet's life. It would have been unthinkable that he should have used his sinistral arm in this scene of punishment. On whatever side his natural dominance might have lain, the use of the dexter hand was inevitable. From this portion of his body came his right to destroy, to command.

Among the rather infrequent references to laterality dominance found in the four Gospels there is one which takes precedence over all others. This is because of its strength and its finality. It portrays for us what we must accept as an epitome of the thought of that day and time. The essence of the message is contained in the twenty-fifth chapter of The Gospel according to St. Matthew, verses 33, 34 and 41—

And he shall set the sheep on his right hand, but the goats on the left. Then shall the King say to them on the right hand, Come, ye blessed of my Father, inherit the kingdom prepared for you from the foundation of the world. Then shall he say to them on the left hand, Depart from me ye cursed into everlasting fire, prepared for the devil and his angels.

The allusions to reward and punishment in relation to laterality found in the Koran follow this pattern closely. We shall quote them as they appear in sequence.

The Event Surah LVI Revealed at Mecca

- 1. When the event befalleth
- 2. There is no denying that it will befall-
- 3. Abasing (some) exalting (others);
- 4. When the earth is shaken with a shock
- 5. And the hills are ground to powder
- 6. So that they become a scattered dust,
- 7. And ye will be three kinds:
- 8. (First) those on the right hand; what of those on the right hand?
- And (then) those on the left hand; what of those on the left hand?
- 27. And those on the right hand; what of those on the right hand?
- 28. Among thornless lote-trees
- 29. And clustered plantains
- 30. And spreading shade

31. And water gushing

March, 1943

- 32. And fruit in plenty
- 33. Neither out of reach nor yet forbidden,
- 34. And raised couches
- 35. Lo. We have created them a (new) creation
- 36. And made them virgins,
- 37. Lovers, friends,
- 38. For those on the right hand;
- 39. A multitude of those of old
- 40. And a multitude of those of later time.
- 41. And those on the left hand; What of those on the left hand?
- 42. In scorching wind and scalding water
- 43. And shadow of black smoke
- 44. Neither cool nor refreshing.
- 45. Lo, heretofor they were effete with luxury
- 46. And used to persist in the awful sin
- 47. And they used to say: When we are dead and have become dust and bones, shall we then forsooth, be raised again,
- 48. And also our forefathers?
- The Event Surah LVI Revealed at Mecca
- 86. Why then, if ye are not in bondage (unto us)
- 87. Do ye not force it back, if ye are truthful?
- 88. Thus if he is of those brought nigh,
- 89. Then breath of life, and plenty, and a Garden of delight.
- 90. And if he is of those on the right hand,
- 91. Then (the greeting) "Peace be unto thee" from those on the right hand
- 92. But if he is of the rejecters, the erring
- 93. Then the welcome will be boiling water
- 94. And roasting at hell fire.
- 95. Lo, this is certain truth.
- Therefor (O Muhammad) praise the name of thy Lord, the Tremendous.
- The Reality Surah LXIX Revealed at Mecca
- Then as for him who is given record in his right hand, he will say: Take, read my book,
- Surely I knew that I should have to meet my reckoning.
- 21. Then he will be in a blissful state
- 22. In a high Garden
- 23. Whereof the clusters are in easy reach
- 24. (And it will be said to those therein) Eat and drink at ease for that which ye sent on before ye in past days.
- 25. But as for him who is given his record in his left hand, he will say: Oh, would that I had not been given my book
- 26. And knew not what my reckoning;
- 27. Oh, would that it had been death;
- 28. My wealth hath not availed me,
- 29. My power hath gone from me.
- 30. (It will be said) Take him and fetter him

- 31. And then expose him to hell fire
- And then insert him in a chain whereof the length is seventy cubits.
- Lo, he used not to believe in Allah the Tremendous
- 34. And urged not on the feeding of the wretched,
- 35. Therefor hath he no lover here this day,
- 36. Nor any food save filth
- 37. Which none but sinners eat.

The Cloaked One Surah LXXIV Revealed at Mecca

- 35. Lo; this is one of the greatest (portents)
- 36. As a warning unto men,
- 37. Unto him of you who will advance or hang back,
- 38. Every soul is a pledge for its own deeds
- 39. Save those who will stand on the right hand.
- 40. In gardens they will ask one another
- 41. Concerning the guilty:
- 42. What hath brought you to this burning?
- 43. They will answer: We were not of those who prayed
- 44. Nor did we feed the wretched.

The Sundering Surah LXXXIV Revealed at Mecca

- Thou, verily O man, art working toward thy Lord a work which thou wilt meet (in His presence).
- Then whoso is given his account in his right hand
- 8. He truly will receive an easy reckoning
- 9. And will return unto his folk in joy.
- But whoso is given his account behind his back.
- 11. He surely will invoke destruction
- 12. And be thrown to scorching fire.

The City Surah XC Revealed at Mecca

- 16. Or some poor wretch in misery
- And to be of those who believe and exhort one another to perseverance and exhort one another to pity,
- 18. Their place will be on the right hand.
- 19. But those who disbelieve Our revelations, their place will be on the left hand,
- 20. Fire will be an awning over them.

The story of the laterality dominance of Moses is told in much detail in the Koran. He is presented to us as one whose activities have been determined by an inexorable belief, the sanctity which the ancient Hebrews bestowed upon all that pertained to the right hands of their Prophets. We are informed time out of mind in the Old Testament that this was a custom fixed and unchangeable. To have disregarded it would have forfeited any claim that one might have to leadership.

That such a regimen might breed in one of its adherents certain physical defects was all unknown at that time. It is well recognized today. We can read into this fascinating study many truths which were then unseen. Moses, with the help of information provided to us by these several excerpts is shown as one who has been caught in the net of an inviolable dextrality. To use his right hand in all that pertained to his office was a responsibility he could not evade. To have attempted such an evasion would have had dire consequence for him and his people.

His selective activity dictated by an all powerful Deity led to the speech defects to which both he and Pharaoh so clearly allude. How noticeable they must have been we may gather from Moses' request that Aaron accompany him in order that his prophecies might reach the people with clarity. That both he and Pharaoh entertained the same ideas regarding his clearness of speech, or in truth, the lack of it, is evident from the context. The whole story we think brings forward presumptive evidence of the original sinistrality of Moses. It was from the enforced disruption of the action patterns natural to one left-handed that his stammering began. The first descriptions of this attitude are found in the Surah, Ta Ha, an early Meccan Surah. Allah is addressing his servant.

Ta Ha Surah XX

- 17. And what is that in thy right hand O Moses?
- 18. He said: This is my staff whereon I lean, and wherewith I beat down branches for my sheep, and wherein I find other uses.
- 19. He said: Cast it down O Moses:
- So he cast it down, and lo, it was a serpent gliding.
- He said: Grasp it and fear not. We shall return it to its former state.
- 22. And thrust thy hand within thine armpit, it will come forth white without hurt. (That will be) another token
- That We may show thee (some) of Our greater portents.
- 24. Go thou unto Pharaoh; Lo, he hath transgressed (the bounds).
- 25. (Moses) said: My Lord, relieve my mind
- 26. And ease my task for me;
- 27. And loose a knot from my tongue.
- 28. That they may understand my saying,
- 29. Appoint for me a henchman from my folk,
- 30. Aaron my brother.
- 31. Confirm my strength with him
- 32. And let him share my task,
- 33. That we may glorify Thee much
- 34. And much remember Thee.
- 35. Lo, thou art ever seeing us.

 He said: Thou art granted thy request O Moses.

It is evident that Allah himself shared the opinion of Moses as to the latter's defective speech. The addition of Aaron to the expedition was accepted as something both reasonable and of value.

The story is told again in the Surah The Poets. We may guess at the extent to which Moses was forced to struggle with a speech defect by this process of reiteration.

The Poets Surah XXVI Revealed at Mecca

- And when thy Lord called Moses, saying: go unto the wrongdoing folk,
- 11. The folk of Pharoah. Will they not ward off (evil)?
- He said: My Lords; Lo, I fear that they will deny me,
- And I shall be embarrassed, and my tongue will not speak plainly, therefore send for Aaron (to help me).

How often has the same prayer arisen in the hearts of our modern victims of enforced laterality changes.

In The Story Moses again calls on the Lord for help for the same reason.

The Story Surah XXVIII Revealed at Mecca

- He said: My Lord, Lo, I killed a man among them and I fear that they will kill me.
- 34. My brother Aaron is more eloquent than I in speech. Therefor send him with me as a helper to confirm me. Lo, I fear that they will give the lie to me.

That this speech defect of Moses was widely known is evident from the following quotation. The stutterer was an object of derision then as now. That such a person could bear messages of importance was inconceivable. Since he could not speak his mind clearly, what he had to say was to be looked upon only with contempt. It is interesting to note that when Pharaoh was bent on belittling Moses in the minds of the Egyptians he did not remind them that he was a foreigner, a despised Hebrew, a man who, in his youth had killed one of their kind, all of which he might have done with truth. He directed his attack upon what he thought was Moses' most vulnerable side, his incoherence, thinking thus to turn the people's minds against their leader. He was correct in his surmise as we discover.

Ornaments of Gold Surah XLIII Revealed at Mecca

51. And Pharaoh caused a proclamation to be made among his people saying: O, my people, is

(To p. 125)

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

DOCTOR TUCKER'S TUCKER TALES

LAST NIGHT I gladly gave sleep in exchange for association and communion with the Tuckers. That delightful and unusual experience was made possible by the story-telling skill of my friend, Doctor Beverley Randolph Tucker, of Richmond, and by the book-making artistry of The Dietz Printing Company. Not for a long time had my night passed so quickly and so pleasantly. And that is a strange statement for me to be making on the day following the night in which I travelled all over the world. With a Tucker of distant days I crossed the channel from France into England with William the Conquerer. For generations I was with many Tuckers in England: later I lived with descendants of the family who had established themselves in Bermuda. I journeyed later with the two brothers, St. George and Thomas Tudor, who came to this country in time to participate in the Revolutionary War.

And I roamed the United States and the rest of the world with other and more Tuckers, some of them soldiers and adventurers; some physicians and some educators and some clergymen and others statesmen.

In the volume fetched forth by the Dietz Press as Tales of The Tuckers only the male descendants of St. George Tucker are taken into account. That particular St. George—there were many others—came into Virginia from Bermuda in 1772. I think it a pity that the women, too, who descended from that puissant pioneer are not told about. I should have been willing to swap the sleep of two or three more nights in order to read of their conquests and of their contributions to our civilization. And I hope Dr. Tucker may be willing sometime to devote the pleasant labor of two or three decades in bringing them before us.

I spent the night in enraptured association with the Tucker men. They were so human and so simple and so natural and so tolerant and so kindly and understanding and so considerate and courteous that I experienced no embarrassment in the intimacy of the communion, even though some of them were Professors and others Judges and others Congressmen and Senators and Diplomats and Military Officers. Whatever their calling and wherever they might be they were folks—Virginia folks—and the kind of folks who tend always to make

the world a better place because they have lived in it.

But life has not always been easy for the men Tuckers. Whenever there had been war they became involved in it; whenever society had to be reörganized they participated in it. But they suffered if they must with little complaint, and they whimpered none at all when Fortune seemed to turn her face from them. And they were adaptable, tolerant, charitable, because they were human. They could and they did and they do live with others to the benefit of the social organization.

Sometimes one scarcely knows which is giving one the more pleasure—the tale that is told or the art displayed by the story-teller in the telling. Which indeed stirs one's soul the more—the brave despair of the philosophy of Omar or the sad and solemn beauty of the Fitzeerald stanzas?

Beverley Randolph Tucker is a splendid story-teller. In the *Tales* he talks to us through this or that Tucker about medicine and law and states-manship and education and literature and history and religion and war and civilization and love and beauty and courage and life and death. He who reads the *Tales* will discover that all the important phases of our national life were influenced by Tucker blood and Tucker character and Tucker courage and Tucker resourcefulness and patriot-ism.

The Tales attest that the world's work is done always by those who are so busy that they always find it possible to do the impossible. In administering a hospital, in teaching medicine, in ministering to many sick folks, and in participating in all those civic activities that make the good citizen, Dr. Tucker is a busy man. But he is unhurried; he is calm and serene; he is considerate always of others, and courteous; and his mind is unceasingly active. Many a book before the Tales he has written—sometimes about medicine, or fiction, or history, and sometimes a poem—but he relaxes and rests by writing again.

The Tuckers are a numerous progeny, but wherever they have gone and whatever they have undertaken they have leavened the lump and have made life more tolerable and more attractive. The Tuckers by marriage and by blood, are related to all the oldest and most distinguished families in Virginia. To know them is to know the ancient Commonwealth and the fons et origo of our civilization and our nation. As a rule, old families pass into an eclipse: not so the Tuckers. They multiply, but they hold fast to their ways, and they retain their ancient prestige.

EPILEPTIC PATIENTS should have not only a sugar-tolerance test but x-ray studies of the pancreas and adrenal glands. —Wm. Lintz, in J. A. M. A., Feb. 13th.

TUBERCULOSIS

J DENNELLY, M. D., Editor, Charlotte, N. C.

BRONCHIECTASIS

Bronchiectasis is now considered the most common chronic lung disease. Tuberculosis and bronchiectasis are often found in the same chest, particularly so of tuberculosis of chronic fibroid type. Late studies have introduced many controversial points. Sinusitis, considered of first importance a few years ago as an etiologic factor, is now regarded as adding to the morbidity of the disease rather than being the cause. Likewise, congenital malformations of lung or bronchi, formerly considered as causes of most cases, are now relegated to the role of lesser etiologic factors.

The January, 1943, issue of *Diseases of the Chest's* symposium discusses the newer concepts as to pathogenesis, etiology and treatment. A certain pre-bronchiectatic state is given as a clinical entity. Improved diagnostic methods have revealed that a much larger number suffer from this discase than were formerly suspected. The day of blindly pouring iodized oil in the trachea and allowing it to find its own way is past. Now lung mapping has become a very accurate procedure, clearly outlining the bronchi of all segments of the lung.

One article in this symposium covers well all phases of the subject. The greatest change in the concept of this disease entity concerns the treatment. Palliative procedures which have often alleviated are giving way to surgical removal of the lesion. However, the author says that even now, chemotherapy, postural and bronchoscopic drainare, removal of sinus and focal infections, and of bronchial obstructions remain a part of any plan of treatment; that these procedures still define the limits of active therapy in most cases. Bronchiectasis tends to relapse and progress, and in most cases, as in tuberculosis, there is potentiality of cure at some stage. Frequently patient and doctor overlook the proper moment to begin treatment. and the disease progresses with its remissions and evacerbations.

A case is cited of a man, 34, first seen with bronchiectasis for seventeen years and a history of having had 200 bronchoscopies. His desire to continue with this method of treatment, which had not benefited, was largely due to the effect of the cocaine used for local anesthesia. This patient eventually died of bronchopneumonia.

It is the author's opinion that too many with either doubtful or definite bronchiectasis are being treated with arsphenamine, bismuth or röntgen rays and bronchoscopic aspiration and lavage. Of the large number of cases studied in the past twelve years, no proved case of congenital bronchiectasis has been seen by the author. He contends that collapse of a lobe is not an etiologic factor but a late manifestation.

A review of 100 cases seen at Lenox Hill Hospital in the past ten years shows 30 per cent had chronic sinus disease, and two-thirds of these 30 cases had symptoms or findings of bronchiectasis from months to years before they developed sinus disease. It is also apparent that bronchiectasis has its beginning in childhood or in early adult life, while chronic sinus disease has its beginning in later life. The known mortality in 85 cases traced, treated and untreated, during the ten-year period was 14.1 per cent. Other authors give percentages of 26 to 47. In a series of 200 cases, Head found that of those cases having the onset in the first decade of life, few were alive after 40.

Prophylaxis requires planning to prevent or reduce severe and protracted respiratory infections, particularly in childhood—proper management of the exanthemata, pneumonia (particularly streptococcic and influenzal), primarily the problem of the pediatrician and general practitioner. Treatment of respiratory diseases should be prompt, the convalescent period should include a longer period of bed-rest and efforts should be made to build up the general physical resistance. There is no medical cure of well-developed bronchiectasis. Postural or bronchoscopic drainage, artificial pneumothorax, v-ray therapy, heliotherapy, autogenous vaccines, and the use of arsenicals may benefit temporarily.

The author strongly opposes continuous bronchoscopic drainage of bronchiectatic cavities, although he agrees that diagnostic bronchoscopy is indicated in practically all cases, suspected or known. He says that lavage of the bronchi with the various so-called bactericidal agents, advocated by some bronchoscopists, is not only useless but dangerous. Many recent reports of successful surgical treatment of bronchiectasis and suppurative pneumonia have been published. Churchill has reported the operative mortality in 122 lobectomies for bronchiectasis as 3.3 per cent. The author concludes by saving that "the physician who routinely advises young adults with operable bronchiectasis against surgery assumes a grave responsibility and frequently renders the patient a great disservice."

Some of us remember more by eye and others by ear. Dr. Mortimer Granville has called attention to this fact in the Lancet. He recommended that a list of words having no connection in sense, should be written by some one else, and read over once by the student, who should write out the list from the visual memory. Another similar but different list was to be read to the student, who was to write the list from the auditory memory. The result of

the two lists when compared with the originals would show whether the visual or auditory memory were the better in the individual. If the visual memory were the better, he would probably learn best by reading textbooks, if the auditory by attending lectures.

—Outerterly Med. JI. (Eng.), 1898.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

THE MANAGEMENT OF MONOCULAR REFRACTIVE ERRORS

SUCH A CASE is not infrequently seen in the course of a year and the question of proper procedure in its care becomes a consideration. It will be understood that in this type of patient one eye meets all the requirements of normal vision or nearly so. Such a patient is usually not aware of the defect in vision in the fellow eye, particularly if he has never had his vision tested, because he suffers no inconvenience or discomfort and the defect is usually brought to his attention by some accident to the better eye or in the course of a visual test. Once the individual, if an adult, becomes conscious of such a condition he is usually greatly concerned because of it and seeks advice in regard to it. In the case of a child it is the parents who are vitally concerned. In either instance the oculist who handles the case has a specific problem to clearly explain rather than treat. Unfortunately for the individual the explanation is sometimes not acceptable to him and, in the case of a child, not to his parents. In such instances he goes or is taken elsewhere for examination with the result that glasses are all too often prescribed. A lens of moderate to considerable thickness, depending upon the degree and type of refractive error, is prescribed for the defective eye, while plain glass or a lens of one-quarter or one-half diopter strength is prescribed for the fellow eye. The net result in each instance being that nothing is accomplished that will add to the patient's visual comfort or efficiency. On the contrary the physical presence of the glasses per se is a handicap, and in the case of a child one of considerable annoyance, and serves to keep before him and his fellows his physical defect which would have been better unexploited. A saner, more practical medical viewpoint of the problem would interdict such treatment. There are those whose opinions differ from the one here expressed but they do not offer any tangible reason for the efficacy of any other method of eratment. It is true in many cases that the sight of the defective eye can be corrected to normal; in others only partial correction is possible, and in some the status quo of vision can not be changed. In any case, save the last, an imbalance in visual

function is produced as between the two eyes because of the alteration in the size of the image produced by the glass before one eye as opposed to the other, and for the same reason the focal length of the eves differ. The result in the confusion of binocular single visual function is obvious. It then holds that, though the defective eye is made wholly or partially efficient, the patient is, on the whole, less efficient. As a matter of fact, persons blind in one eye with good vision in the remaining eye. are only handicapped in the function of depth perception, and in lateral vision to a very small degree, and are fully capable of accomplishing efficiently most of the functions of vision assigned to two-eyed individuals, particularly if the sense of hearing in the one-eyed individual is acute in each

Any oculist can cite many cases of one-eyed individuals and those with exceedingly poor vision in one eye who have for years efficiently carried on in hazardous occupations as well as in technical vocations. Individuals with one good eye are eminently safer and more capable of accomplishing their work in the industries and in handling the transport systems of this country than many with poor sight in each eye who are now engaged in these occupations.

OBSTETRICS

HENRY J. LANGSTON, M.D., Editor, Danville, Va.

DELIVERING BABIES AT HOME

ALL REALISTS realize that most babies are delivered in the home, and that this state of affairs will continue for as long as we care to look forward. Many think this nothing to be deplored.

Read what a good doctor¹ with lots of experience in this field has to say:

There is not always reason for the woman who has a baby at home to receive much less obstetrical skill than if she were delivered in a hospital; four-fifths of the babies born are delivered at home. This being the case it behooves the country doctor and any city doctor who delivers babies in the residence to see that his patient is not penalized because she is not in a hospital. When deliveries occur at the residence, neighbors, relatives and others usually observe the doctor's work, and, if it is good, he may get some praise; if bad, he is condemned. The hospital delivery is seen only by three or four nurses.

The doctor who delivers many patients at home can go to the hospital and deliver a baby about as well as the doctor who delivers only in the hospi-

^{1.} J. E. Garrison, Birmingham, in Il. Med. Assn. Ala., Feb.

tal; whereas the hospital doctor would make a flat failure were he to attempt a delivery at the residence. The hospital obstetrician has a table covered with instruments. The man at home delivery has a dozen or less instruments in a dishpan and can usually do very skillful work with fewer circus surroundings.

The late Dr. Joseph B. DeLee said the safest place for a woman to have her baby is in the home when a competent man is her doctor.

Residential obstetrics is much harder on the doctor. It is not the object of this paper to argue substitution of residential for hospital deliveries, but it will be to try to suggest ideas which may aid the doctor who is compelled to deliver his maternity patients at home. Much very bad obstetrics may be seen in hospitals. It has always been the policy of the writer to care for his patients at home if they could not afford a hospital atmosphere.

I have done more than a thousand versions, and more than 2500 forceps deliveries in the home. I once did a version and extraction while the patient was reclining on her husband's lap. This woman was recently in my office, and the boy is now in the Australian army. Uncounted episiotomies have likewise been done at the residence, and also several placentae praeviae have been cared for there. This condition is very dangerous, no matter where done. I have never done a cesarean section at home, but would not hesitate to do so, if forced.

Residential deliveries are done antiseptically; a hospital delivery is supposed to be done aseptically. I have never seen an aseptic birthroom. There is no occasion for a doctor to carry a trunk-full of sterilized linens to a residential labor. The germs at a residence are not so virulent as those at a hospital.

In the hospital nursery today the baby is encased in a glass cage, and the nurses are taught to "throw a fit" if the doctor wishes to see his baby without putting on a sterile cap, mask and gown. At home the doctor does not become unduly alarmed if Fido or Kitty jumps up beside the cradle and kisses the baby a friendly welcome. Still, dogs and cats should never be permitted in the lying-in room at home at any time.

The interne is taught all the horrors of residential deliveries, and he is utterly useless when he tries to deliver at home. Four years' experience in one of our largest mining camps taught me that all this fear of lack of asepsis is easily erased by doing antiseptically.

Some doctors make more rectal examinations, I am told, in hospital than vaginals. There are far more bacteria on slides from the cervical smears following rectal examinations than on such slides following vaginal examinations. I plan to show these slides in a publication to be made later.

There is very little reason why a doctor should hesitate to do a compulsory forceps delivery or an enforced version and extraction at the residence, if he is sure of his sterilization and knows how to do these operations as they should be done. It is more inconvenient. For any residence delivery there are only a certain few instruments to be boiled up in a dishpan with the gloves, and four towels or baby napkins. Those which the writer has found most desirable for himself over a period of years are only 17. The same he used in either hospital or residence deliveries are: catheter, obstetric forceps, traction bar, scissors, 2 artery forceps, 2 vaginal retractors, 2 ring forceps, 2 Allis forceps, 3 needles, 1 thumb forceps with teeth, 1 needle holder. At the residence they are left in the dishpan in which they were boiled, and placed on a chair beside the doctor as he sits at the bedside during the delivery. The patient was told to take an enema when labor began, and is shaved after the doctor and nurse arrive. I rarely attend a residence delivery without a graduate nurse to assist.

The bed is lifted from the floor by putting two bricks under each leg of the bed, the legs resting in castor cups to prevent slipping. The bed is prepared by putting an oilcloth over the sheet covering the mattress. A layer of six newspapers covered with a bath towel lies in such a way as to coincide with the length of the bed, and crosswise these is another layer of eight newspapers also covered with a bath towel, arranged so that onefourth their length hangs over a slop jar at the side of the bed. All are pinned together. All drapings for the patient and linen for the baby hang on the bed head. The patient, draped as desired, lying on these, is turned across the bed when she is about ready for delivery. The assistants sit on the bed, one on each side of the patient, and support the patient's legs, while the anesthetist sits on the far side of the bed from the doctor's seat. The anesthetist may be a nurse, the husband or a neighbor, whom the doctor directs as to the manner the ether is given.

The anesthetist, two assistants and doctor wear caps and masks, and the doctor also has on a gown—all laundry-clean, but not sterile.

The doctor sits on a chair at the bedside of the patient so as to face the operative field. On one side of him are two chairs, the one nearer the bed holding a basin of cresol solution with 20 or more small cotton sponges, and a bottle of green soap. The chair further from the bed supports the dishpan of instruments. Only one chair is on the other side of the doctor, and it supports a basin of cyanide of mercury solution. The doctor washes his

hands in running water with soap, or, in the absence of faucets, in a basin; then, the patient already arranged, he rinses his hands. first in the cyanide solution and then in the cresol solution. The gloves are removed from the dishpan and dropped into the cresol solution.

A little green soap is poured on his hands and the wet gloves are then easily slipped on. Cotton pledgets are squeezed over the operative field, first from the cyanide solution and then from the cresol. The patient is catheterized. One of the sterile towels is pushed under the buttocks. Tincture of green soap is repeatedly poured into the vagina, and the two solutions are squeezed over the outlet repeatedly. The gloved hands are frequently-dipped into the two solutions throughout the delivery. Episiotomy is made if needed, and the labor terminated as the doctor desires.

The cord is clamped and cut by the doctor and the baby handed to the nurse. One of the sterile towels is laid over the patient's abdomen to support the instruments if there is any repair.

The patient is next turned on her side toward the foot of the bed, and the eight sheets of paper and the top bath towel are unpinned and rolled under her. She is then turned back toward the head of the bed, and the other pins removed and the papers and towel discarded. She is then lifted into proper position on the bed, being on top of the first bath towel and six sheets of newspapers. No gown or bedding is soiled once in 50 cases.

Breech extractions are done with the patient just as above described. The writer rarely delivers a residence case in any other position. As assistants, relatives are not desirable.

Rarely ever do any sutures break down and the convalescence is almost always normal. Aftercare of the patient is the same as in a hospital case.

Maternal mortality and morbidity are not increased as a result of the baby being born at home. Fetal mortality may be slightly higher at home as a result of a lack of oxygen in some instances, but even then is very small.

These conclusions are based on a personal experience of more than 6,400 obstetric cases, plus the observation of 1,300 additional deliveries seen done by the best men in Dublin, London, Berlin, Vienna and Paris, and in most of the eastern maternities in this country—in all nearly 8,000.

From a distant section of the country comes more² in the same month in the same vein:

If a doctor wishes to inform himself on new steps applicable to home deliveries he is forced to search out infrequent articles, or, what is somewhat disconcerting, a nursing textbook in obstetrics. Certain areas are sparsely settled and hospital care for the pregnant woman is often impossible. In the more thickly settled areas there will be found certain women who choose to have their babies at home. Most of these families are not receiving charity; they proudly and painfully pay necessary expenses. If M.D.s refuse to give these good patients care in their homes, the grandmother or the neighbor, or the osteopath or chiropractor will take charge. The mother will thereafter go to the man who has delivered her for other conditions for which she or her family may need care.

It is perfectly possible to carry many of the recent advances in obstetrics to a home case.

The home case is unaccompanied by the frills but need not be without the essentials of good surgical technique.

The doctor usually carries barbiturates, morphine, and scopolamine for analgesia; for anesthesia, ether and chloroform. Chloroform may be required in cases where an open flame is near or the patient has an acute cold.

I wish to add with enthusiasm: procaine for local or block anesthesia. It can be added very easily to the routine equipment carried to all home cases.

The doctor will do well to carry ampoules of one of the water-soluble Vitamin K preparations when he goes to home deliveries. You know of the discussion pro and con regarding its routine use. I, for one, do not give it to every mother in labor—but use it prophylactically for the instrumental case, the breech, the premature and the infant I fear to be very large.

If a doctor feels a weakness in his technique, he has a powerful antiseptic in sulfanilamide or sulfathiazole powder. If necessary to pack a uterus, he can, in a moment, incorporate one of these substances into the folds of his pack.

The ampoule of ergot which may be used intravenously should be used after a prolonged second stage with an atonic uterus resulting, after operative delivery with exhaustion or near exhaustion, or after delivery in which the patient has had very much general anesthesia.

Pitutrin etc. have no broader uses in the conduct of labor at home than in the hospital.

I carry a flask of saline with 5 per cent glucose together with a little package of sterile tubing, connections and needles for infusion. Plasma may likewise be bought and carried for emergencies, dried.

Home obstetrics is not extinct, nor will it be for a long time. I ask for training in home obstetrics for the medical student, for more than passing attention to this type of practice in the literature, and for appropriate emphasis on the problems of home obstetrics in postgraduate stuhies.

E. S. Palmerton, Albert Lea, Minn., in Minn. Med., Feb.

PEDIATRICS

THE PREMATURE INFANT

Many premature infants die within 48 hours after birth because of some congenital maldevelopment or extreme immaturity. The majority who survive the first 48 hours can be saved by air-conditioned nurseries, carefully selected formulas, good nursing and prophylaxis against infections.

We now stress weight at birth rather than period of uterine gestation as our criterion for prematurity. We may eventually discard the word premature and for it substitute immature. Infants weighing 51/2 pounds or less are immature and are so treated. Prematurity is responsible for one-third of the total infant mortality.

Premature infants need special nurses and separate rooms. They require attentions far different from those of normal newborns. They need not be sent to a hospital if conditions at home are favorable. The general practitioner should and can raise a premature infant as well as the specialist in a special p. i. unit.

A prolonged prothrombin and blood clotting time is found in very many p. i. Five to six per cent of all newborns are premature infants; 46 per cent of the women who gave birth to premature

infants were primipara.

Many a premature infant dies as a result of immaturity, of atelectasis, of cerebral hemorrhage, of malformation or of infection (upper or lower respiratory). To lower the morbidity and mortality the causes of death should be known in each case. This requires autopsies by competent men.

We have autopsied many a p. i. and found no gros sor microscopic lesion to account for death. On the other hand, we realize how handicapped is one who attempts a clinical diagnosis in a case of slight tentorial tear with hemorrhage, or adrenal hemorrhage, or ruptured liver, or absent adrenals. Atelectasis as the cause of death, especially in infants weighing 1,200 grams or more, is quite infrequent.

A specially trained nurse or a pediatrician should be present at the birth of a premature infant, prepared to remove muscus from the air passages, using sterile gauze, a soft-rubber car syringe or a soft-rubber catheter. The end of the catheter may be attached to a Murphy-drip glass, a piece of rubber tubing being connected with the other end. If necessary administer 95 per cent oxygen and 5 per cent carbon dioxide, or oxygen alone.

The temperature in the delivery room should be 70° to 75° and a heat lamp directed toward the perineum and the infant during delivery. After the

1. Morris Gleich, New York, in Arch. Pediatrics, Jan., 1942.

ligation of the cord, the infant should be wrapped in a warm blanket, put into a heated bed (98°) in the Trendelenburg position, and one drop of a one per cent silver nitrate solution put into each eve. The p. i. is not to be moved for at least an hour after birth: then to the nursery reserved for p. i. In some cases 1 to 3 drops of adrenalin chloride solution (1:1000), intramuscularly, is of value. Handle as little os possible. Chest-pressing, alternate hot and cold water baths, jack-knifing, holding infants upside down, spanking or rubbing spines encourages intracranial hemorrhage.

After an hour the Fowler position is to be used. Examine for congenital maldevelopments, injuries and diseases.

The temperature of the premature infant should be maintained at 99.6°; of the nursery at 80°. Incubators are unnecessary if the room t, can be continually maintained at 80°. If an incubator is used the t, in the incubator should be 80 to 85°. Determine the t, of the infant and of the incubator every four to six hours. A relative humidity of 45 to 55 per cent is best. In the home regulate humidity by using two or three flat pans containing water on top of the radiator, or on a table or shelf. Inexpensive humidity gauges are now on the market. These infants are not to leave the incubator or a specially heated room until able to maintain their own t. without external heat. When the infant reaches 5 pounds 8 ounces, if it is in good health, it may be transferred to a nursery for premature infants kept at 72°.

An air-conditioned nursery provides an ideal environment. Infants kept near heated radiators often develop fever and fail to gain.

The mortality rate for all age- and weightgroups in the air-conditioned unit was 7 per cent as compared with 28.9 per cent in the uncondi-

The simplest improvised incubator has two incandescent bulbs controlled by a switch on the outside. A canvas cover for open top, with both bulbs used partly cover the top. In many cases, only one light is needed. Often, we have used one or two hot-water bags instead of electric lights.

A sterilized blanket is used, covered by a sterile diaper, upon which the infant lies. The head and shoulders are slightly elevated, no mattress, since blankets are more easily sterilized. Flat pans of water placed in the room supply the extra humidity.

Should oxygen be needed, as in the case of cyanosis, we use the funnel or forked metal nasal tip connected by a rubber tube to a tank.

A flannel or bird's eye diaper; a cotton, flannel or 10-per cent silk and wool shirt; a flannel or knit abdominal binder; a flannel wrapper with a drawstring at the bottom, and wrist-length sleeves; a cotton receiving blanket, wrapped loosely around the thighs and legs; stockings; and one or two woolen blankets are needed. After the cord falls off, the binder is no longer necessary.

Most p. i. thrive on 150 calories, and fluid 150 c.c. per kilo daily. A 5 per cent glucose in normal saline solution may be given once or twice a day for a limited time by hypodermoclysis, with strict aseptic technique. Vitamin requirements are: A, 7,000; B₁, 50 international units; B₂, 100 Sherman-Bourquin units; C, 100-200; D, 1,000-2,000.

Milk contains sufficient calcium and phosphorus. Cow's milk does not supply enough iron for growth needs; iron is increased when some breast milk is substituted for cow's milk. Many premature infants require 10-25 mg. of iron per kilo of weight daily (1 c.c. of a 10 per cent solution of ferric ammonium citrate daily). One-half per cent crystalline copper sulphate solution added (½ c.c. per pound) to the formula daily meets copper requirements.

The p. i. should be put to the breast when it reaches five pounds, every three hours, seven feedings a day. Every effort should be made to obtain breast milk. For the first few days dilute with equal parts of 5 per cent glucose solution or plain boiled water. Those fed breast milk alone, although caloric intake is higher, may not thrive as well as those fed breast milk and Casec mixtures. Biolac (1 ounce to 6 ounces breast milk), or Dryco 2 to 6 teaspoonfuls to the day's formula, may also be used to fortify the breast milk.

Powdered Whole Lactic Acid Milk:* one level tablespoonful to two ounces of warm sterile water, beaten in with an egg beater or fork; sugar is added one to two ounces to the quart. One-third to one-half ounce of this mixture every two hours (10 feedings in 24 hours).

Merrell-Soule

Carbohydrate: our stock formula contains two to three tablespoonfuls of sucrose, Dextri-Maltose or corn syrup. The addition of cereals, vegetables, cooked fruits, zwieback, egg yolk and banana is

Many of the smaller p. i. are too feeble to suck Many of the smaller p. i. are too feeable to suck and are fed by gavage, the catheter placed close to the back of the pharnyx. Infant need not be moved from the crib or the incubator for its feeding. Its position should be changed frequently. The smaller infant is best relieved of his gas by being placed in the Fowler position or on the right side.

Infants under 1,500 gms. should be sponged once a day, water 90 to 95°; room 80 to 85°. The entire body should never be exposed. Rectal temperature should be taken twice a day.

The chief causes of cyanosis are asphyxia, intracranial hemorrhage, atelectasis, congenital debility, abdominal distention, usually during or right after feeding, exhaustion, exposure to cold or too much heat, a congenital heart or diaphragmatic hernia.

At a hospital in Chicago, where 774 autopsies were performed upon p. i., 42.7 per cent showed rather severe intracranial hemorrhage. The cause is often some blood dyscrasia or maternal toxemia, not trauma.

Xanthochromatic fluid or red blood cells in the cerebrospinal fluid of p. i. early in life may signify meningeal congestion. To diagnose cerebral hemorrhage on the basis of these blood cells is unwise. In fact, red blood cells in the spinal fluid of premature infants is so common as to be regarded as physiological. We doubt if a spinal tap encourages more bleeding. For the cyanosis of intracranial hemorrhage oxygen is effective. For convulsions sodium phenobarbital by rectum.

The commonest cause for diarrhea is overfeeding. Vomiting, with or without diarrhea, with or without fever, may be the first sign of infection. Infectious diarrhea has occurred in epidemics. No specific treatment. The maternity ward should be closed to new admissions. Epidemics frequently start with a p. i., so the p. i. should be kept separate from the normal newborn as a routine. Protein milk is excellent for checking diarrhea, especially of the fermentative type.

Abdominal distention is best relieved by an enema of plained boiled water or normal saline, gastric lavage, or both. For constipation only an enema of water or olive or mineral oil (1 ounce).

Hernias are usually congenital. Phimosis or a tight sphincter may cause a hernia. Hernias should be given immediate attention: umbilical treated by a strip of adhesive so applied as to extend well beyond the hernia and to invaginate it; inguinal by a skein of white wool so knotted as to exert gentle pressure directly over the reduced herniated area.

Cross infection is minimized by admission of only those nurses who are assigned and one doctor; scrub hands before handling an infant and never enter the nursery without donning cap, mask with a piece of compressed cotton between the layers of gauze and sterile gown.

Tetany is best prevented by sufficient vitamin D, begun as early as the second or third week. Twenty drops of oleum percomorphum (Mead), or viosterol in oil, or 4 to 6 drops of crystalline vitamin D in propylene glycol (Drisdol) added to the formula daily. Curative is 10 per cent hydrated calcium chloride—3 grams in one dose, then 15 grains every 4 hours. At the end of 24 hours we give 15 grains t. i. d. for 2 weeks.

Calcium gluconate 10 per cent intramuscularly several times a day for a few days. We use oleum percomorphum (Mead) 20 drops, or Drisol 10 drops daily. Chloral hydrate, 3 to 5 grains rectally in 1 ounce of normal saline solution when the patient is first seen.

Refractory cases of tetany have yielded to intravenous administration of viosterol in oil.

A syphilitic infant may present no stigmata at birth and may have a negative Kahn or Wessermann in the first four weeks of life. It may be well nourished, weigh 7 or 8 pounds, have a clear skin, no nasal discharge and no palpable spleen. A month later the baby presents snuffles, shows a rash, condylomata and a firm palpable spleen. The Kahn test is positive.

Pneumonia requires isolation, shifting its position often. Sulfapyridine is valuable and effective, one grain per pound by mouth daily. Intramuscular injections of parental serum or whole blood transfusions, oxygen (2 to 3 liters per minute, using the forked metal nasal inhaler when indicated) excellent.

Don't leave a bottle of milk in a baby's mouth.

There may be pneumonia or otitis without fever and even subnormal temperature.

In the cyanosis of the p. i. oxygen should be given continuously. This rule applies to the fleeting cyanosis often seen at birth as well as to the cyanosis of pneumonia. Oxygen is best given the p. i. by metal nasal tip, rubber catheter, tent, funnel or chamber.

There is no need for the routine use of hormones in the care of our p. i.

Circumcise when the infant reaches 6 to 7 pounds and its general condition is good. Learn prothrombin clotting and blood-clotting time before operating.

While harelip is usually operated on in a vigorous infant in the first two weeks of life, it is wise and essential that operation upon a p. i. be deferred.

Empyema is not an emergency, yet it requires operation in most cases.

UROLOGY

FAYMOND THOMPSON, M.D. Editor, Charlotte, N. C.

THE DURATION OF LIFE FOLLOWING NEPHRECTOMY

NEPHRECTOMY is a formidable operation and the prospect of attaining old age by a person who has lost one-half of his kidney tissue by removal of one kidney, whatever the cause, is considerably jeopardized. Yet a normal life expectancy in many cases is possible under certain conditions. The body can function with two-thirds of one kidney or one-third of two kidneys. The integrity of the remaining kidney tissue is all-important.

Insurance experience is enlightening as regards the prognosis.

The Joint Committee of the Actuarial Society of America and the Association of Life Insurance Medical Directors in the 1929 Study of Medical Impairments reported the experience in cases in which nephrectomy had been performed. There were 6,537 such case reports issued between the years 1909 and 1927 inclusive and the period covered was carried to the 1928 anniversaries. For those issued insurance within two years of the operation, the mortality ratios were 218% \pm 48, and over two years after the operation 75% \pm 10. (100% represents the basic insurance experience for the same period.)

The death rates were below those expected.

The same committee made a further study of nephrectomy cases in 1938, covering cases issued in the years 1925-1936 inclusive, carried to the 1937 anniversaries. The mortality experience is shown in the following table:

NEPHRECTOMY

- B Operation within 2 years of application.
- C Operation within 3-5 years of application. D Operation within 6-10 years of application.
- F Operation over 10 years prior to application.

The death rate from nephritis was four times the normal. Among those who died 16% had histories of tuberculosis, 16% of renal colic, 1% of cancer and 67% either no recorded history or some other impairment than these.

The two studies combined consist of 22,032 cases issued insurance from 1909 to 1936 inclusive and carried to the 1937 anniversaries. This experience is sufficient to enable us to proceed with the selection of these cases with some degree of confidence that our predictions will be fairly accurately fulfilled.

Caution is necessary in the selection of persons for life insurance who have undergone nephrectomies. A specimen of urine for microscopic examination at the Home Office Laboratory is required. A function test of the remaining kidney, though not routinely required, is always desirable and at times may be absolutely necessary for the fair appraisal of the risk. A complete personal history is essential, particularly as regards urinary history following the nephrectomy. All factors in the per-

sonal history and abnormal physical findings on examination are carefully weighed as to effect upon longevity when associated with the major impairment, namely, the loss of one kidney. A statement from the operating surgeon is required. The blood pressure must be normal. On account of the high mortality among cases accepted soon after operation, many companies do not issue insurance on any basis until two years have elapsed following operation, especially in the case of women of childbearing age.

When nephrectomy was performed on account of hydronephrosis, pyonephrosis, septic infections, stone, stab wound or other traumatism, life insurance may be issued on the following basis:

NEPHRECTOMY

١	Within I year of operation-Rating for additional	70
	mortality of	201
2	2nd year after operation-Rating for additional	
	mortality of	100
3	3rd to 5th year after operation-Rating for additional	
	mortality of	73
•	6th to 10th year after operation—Rating for addi-	F1
1	tional mortality of	30
	tional mortality of20 to	0 10
	cional mortane, or minimum minimum or co	

If the urine or blood pressure is not normal or if the kidney is probably impaired, the case is declined.

If nephrectomy was performed on account of tuberculosis of the kidney, the mortality is considerably higher than where the above conditions were responsible and consequently the ratings must be higher. A common practice is to provide for the mortality shown above, plus one-half of the additional mortality required for a history of pulmonary tuberculosis. The additional mortality to be expected here in a group of persons age 30, of average weight in relation to height is shown below:

NEPHRECTOMY DUE TO TUBERCULOSIS (Age 30, Average Weight)

Within 1 year of operation-Rating for additional

tality ofDecline
%
3rd to 5th year after op.—Rating for additional mor-
tality of
6th to 10th year after op Rating for additional mor-
tality of
11th yea rand later after op Rating for additional
mortality of30 to 20

Higher mortality is to be expected among younger persons or those under average weight, while older persons or those moderately overweight will show a lower mortality than shown in the table.

As tuberculosis of the kidney is likely to be secondary, careful examination for evidence of tuberculosis elsewhere is important. If both kidneys have been involved, insurance is not issued.

When nephrectomy was done on account of a tumor, insurance is generally not issued on any basis until after five years have elapsed. Applicants between the 5th and 11th year generally require a rather high rating, depending upon the type of tumor. There must be apparent cure. Any suspicion of recurrence disqualifies.

Nephrectomy cases showing albumin, casts, persistent low specific gravity, hematuria, pyuria, glycosuria, elevated blood pressure or evidence of arteriosclerosis are generally declined.

Disability insurance is not issued, regardless of the reason for the nephrectomy, and the amount of life insurance issued is limited.

While a history of nephrectomy is a major impairment in obtaining life insurance, many such applicants are entitled to policies with extra ratings, and quite a few are able after the elapse of ten years from date of operation to qualify for insurance at standard rates.

LATERALITY DOMINANCE-From p. 116)

not mine the sovereignty of Egypt and these rivers flowing under me? Can ye not then discern?

52. I am surely better than this fellow who is despicable and can hardly make (his meaning) plain.

53. Why then have armlets of gold not been set upon him, or angels sent along with him?

54. Thus he persuaded his people to make light (of Moses) and they obeyed him. Lo, they were a wanton folk.

HOSPITALS

R. B. DAVIS, M.D., Editor, Greensboro, N. C.

HOW MUCH ARE YOU PAYING

WHEREVER there is a hospital meeting, a subject discussed is salaries of the employee—that they are not standardized and are subject to frequent changes.

The writer does not feel that it would be well to standardize anything in the hospital except good service. If an attempt to standardize salaries for hospital employees were made, hospitals in the smaller centers would be compelled to close up; salaries are supposed to represent only a fair living wage plus a reasonable surplus for a rainy day and for old age. If living expenses were standardized all over the country, then it would be well to attempt to standardize salaries. However, in a section there is an abundance of truck farming and vegetables are cheap; in another beef cattle is the

main source of income and beef is cheap; in another grain is the principal crop and flour and meal are cheap; while on the seacoast sea food can be bought for much less than in the uplands.

Then the question of clothing, entertainment and rents enter in. There was a time when these did not particularly concern the graduate nurse, but today it does concern probably thirty-five per cent of them. The reason is that so many nurses are married and have families, therefore, the money they make is spent for house rent, clothes, silk stockings for their daughters and many other things which are necessary only in order that they might keep up with the Joneses.

Therefore, it would be foolish to attempt to standardize especially the salaries of the nursing personnel. Also, there enters into this question the matter of efficiency. One employee may be worth twice as much to an institution as another and yet, if they are both filling the same type of job, standardization of salaries would require both to receive the same income. What one should do concerning salaries is to pay a good living wage for the locality. From then on, there should be a matter of efficiency, loyalty and length of employment, and an excellent plan for promotions is to always promote your own employees to a higher position rather than call some outsider to come in and head a department.

Another disturbing factor about salaries is that hospital administrators and owners sometime, when they become panicky for help, send word to other hospitals' employees that they are paying more for similar services. This may be true, but often in these cases there is not as much left of the employees' salary check after their expenses are paid as there was left of the check that was smaller at a place of lower living expenses. It is a bad method for one hospital to attempt to lure the employees of another hospital by reason of a better job and more income. This method has been tried for years and years in the domestic servants' field and it has caused more hard feelings between the Joneses and the Browns than any other neighborhood contact. It can easily destroy the goodwill between hospitals. If a hospital has a satisfactory nursing personnel, they should be left alone by other hospitals. If one or two or more employees of the hospital are dissatisfied, they will find other employment and the institution can find someone else to take their places. Nurses, as well as other people, should be taught to recognize the fact that they owe an obligation to the institution which has trained them and given them a job whereby a livelihood has been made for a period of many years. This by no means prohibits a nurse from accepting employment elsewhere. If for any reason whatsoever she is dissatisfied in her present position, she should give ample notice in order that her employer and the institution might not be left without the proper help. It is almost a universal custom to give a nurse a month's notice before discharging her and it should be equally universal for her to give a hospital a month's notice and in some cases—such as that of the superintendent, the operating-room supervisor and the dietitian—it might take even longer than that to locate a satisfactory person

It is not the writer's intention to convey in any manner whatsoever the thought that people should not strive to obtain a better position; but, in order to do that, it is necessary for one to strive to better fill the position that one has. If this is true, frequently the income would be easily adjusted in an upward scale and the institution for which one works would still be the gainer. To him that is faithful in a little charge, larger charges shall be given.

CLINICAL CHEMISTRY AND MICROSCOPY

SOME SUGGESTIONS AS TO THE CLINICAL LABORATORY OF THE PRACTICING PHYSICIAN

FORTY-SIX YEARS AGO a Washington doctor¹ urged upon the general practitioners of this section the importance and the practicability of their doing the greatest part of their own laboratory work, and listed the physical equipment required.

Diagnosis is the battleground of scientific medicine. Upon that field must be fought the conflict between empiricism and science in the progress of medicine towards a *true* science. And in this conflict is emphasized the dependence upon the men in the ranks to achieve results. Upon the practicing physician rests the work of accumulating evidence as to whether claims made by progressive methods shall stand or fall.

The essayist suggests how the busy practitioner can improve his own diagnoses, and at the same time add to the knowledge of the profession at large by doing most of his own laboratory work. The time necessary to do the work is of minor importance, though often advanced as the principal argument against it. For after your laboratory is in working order, the time spent in confirming, for instance, a doubtful diagnosis of tuberculosis, will not aggregate a third the time lost in worrying over an uncertain one.

^{1.} J. D. Thomas, Washington, in Va. Med. Scmi-M nt'dy, Sept. 24, 1897.

To accomplish surprising results with the examination which are necessary in the ordinary routine of practice, the following outfit is sufficient, with the addition of a few minor details as individual necessities require:

A microscope with three objectives, three, seven and one-twelfth oil immersion; two eye pieces, Abbe condenser, movable stage; slides, cover glasses and forceps; watch glasses, test tubes, glass funnels, rods and pipettes, measuring glass graduated in metric system; spirit lamp, or Bunsen burner; urinometer, ureometer, Fleischl's haemometer, or Gower's haemoglobinometer; centrifugal machine, with haematokrit.

And the following reagents: Distilled water, alcohol, absolute and 95 per cent; ether, chloroform, the stronger acids C. P.; the stronger alkalies C. P.; tests for sugar, phosphates, chlorides, sulphates in urine; tests for urea; normal salt solution; stains for bacteria and for blood; test papers or solutions for gastric and saliva analyses; litmus and filter paper.

Until recently, one of the great obstacles to individual laboratory work by the general practitioner was the proper preparation of the stains necessary. This has been obviated to a great extent by some of the drug houses supplying them ready for use.

It is not absolutely necessary to have a movable stage to your microscope. But the time saved and the accuracy gained by it will more than compensate for the cost.

With this outfit, the secretions and excretions of the body can be made to yield up to the physician what information they may hold of the cause and nature of disease. The saliva, sputum, stomach contents, feces, urine, urethral and vaginal discharges, conjunctival discharges, pus, pleuritic and ascitic fluids, and the blood, will all give up their quota of information to the physician who will seek it in the laboratory.

Your patient with incipient lung trouble brings a specimen of sputum, a small particle of the thickest portion placed on the end of a glass slide and spread out well by another slide pressed down on it and pulled apart; both put aside for two or three minutes to dry, then through the flame three times; stained with Ziehl's solution of fuchsin, and as a counter-stain methylene blue in a 25 per cent sulphuric acid; examined one-twelfth oil immersion lens. Tubercle bacilli show red against a blue background

The saliva may be examined for potassium iodide to find by the rate of appearance the absorptive power of the stomach.

Lavage of the stomach is now an every-day occurrence in practice. Qualitative and quantitative estimation of HCl will afford valuable information. Acids of fermentation estimation would require too much time.

The examination of the feces may yield even to the inexperienced the amoebae coli of dysentery; the spores of various animal parasites, or the parasites themselves; red-blood corpuscles, pus, biliary and intestinal concretions.

No diagnosis of gonorrhoea can stand unassailed without the demonstration of that organism in the discharge, and since it is so easy of demonstration it should never be neglected.

The stigma of sterility resting upon a woman can oftentimes be shifted to the proper shoulders by a microscopical examination of the semen of the husband.

By the addition of a small piece of caustic soda and stirring, the presence of pus can be proven by the urine becoming ropy. Pus cells may be identified under the microscope, also tube casts, red blood cells, epithelium, crystal and parasites.

In the conjunctival discharges, gonococcus and small bacillus of Weeks; in pleuritic and ascitic fluids, pus, blood cells, cancer cells, or tubercle bacilli; in the blood, malaria plasmodia.

In anaemia, a deficiency of haemoglobin content can be easily demonstrated by Fleischl's haemometer. A diminution of the number of red cells can be demonstrated with the Thoma-Zeiss counting apparatus; or more quickly and just as accurately with the haemotokrit—a modification of the centrifugal machine. With your microscope, you can also make a diagnosis of pernicious anaemia by the variations in form of the red cells; of leukemia, by increase of leukocytes and many others, with a more elaborate study. Recent investigations with the Widal test for typhoid fever point to a certain early diagnosis.

PROCTOLOGY

RUSSELL VON L. BUXTON, M.D., Editor, Newport News, Va.

TREATMENT OF A RECTAL STRICTURE DUE TO LYMPHOPATHIA VENEREUM

ABOUT EIGHT YEARS AGO, an opportunity presented itself to treat several patients with partial obstruction, due to rectal stricture, with the Elliott machine, ordinarily used to treat pelvic inflammatory disease, an apparatus for heating water and forcing it through an applicator within the vagina. In the treatment of rectal stricture a small rubber applicator, approximately the size of the little finger. is introduced into the rectum. The water is then heated to 130° and passed through the applicator, within the rectum, for one hour. This application of heat in this manner apparently causes resolution of the fibrous tissue and the stricture

tends to disappear. In addition there is relief of discomfort caused by secondary infection. Ordinary care in the application of heat through the Elliott machine must be used. That is to say, the skin of the buttocks must be protected from the applicator by gauze packs and the temperature must not go above 130°, and the water pressure not above three pounds. This therapy followed in two cases over four years, the strictures have remained the same size and the patients comfort is encouraging. In the treatment of advanced cases of rectal stricture with debilitation, the procedure of choice is colostomy under local or spinal anesthesia. A doublebarrel colostomy is performed, of course a permanent colostomy. The operation is dangerous because the patients are in poor condition at the time they are operated upon.

From these few cases it may be concluded that long-continued heat daily for three or four weeks to the diseased tissue, by means of the Elliott machine, will benefit rectal stricture due to lymphopathia venereum. If, however, the stricture has caused complete obstruction, a colostomy is indi-

cated.

DENTISTRY

J. H. GUIDH, D. D. S., Editor, Charlotte, N. C.

ANATOMIC CONSIDERATIONS IN LOCAL ANESTHESIA

An article¹ with applications to the work of physician and dentist is abstracted:

Nature aids the dental surgeon in nerve blocking by forming foramina into which the needle may find its way, and by forming depressions and ridges serving as landmarks for the position of the needle. Nature also places blood vessels and muscles near the site of almost every injection, and into these the anesthetist's needle should not go.

The best equipment and the most satisfactory anesthetic solution will not get results unless the

solution is properly placed.

Injections deep enough for painless extractions are not always deep enough for cavity preparation or vital pulp extirpation. Much deeper penetration is necessary to anesthetize the pulp than for the mucosa and alveolar bone.

The maxillary teeth are innervated by two distinct nerve loops—an outer, the principal source of nerve supply to the pulps of the posterior maxillary teeth, and the cuspid, the buccal alveolar and abial alveolar plates, the periosterum and mucous membrane covering the external alveolar plate; the inner (contrary to most texts of anatomy and anesthesia) also has a connection with the pulps of

the maxillary teeth as well as supplying the palatal alveolar plates and soft-tissue covering. It is necessary to anesthetize the inner nerve loops for painless cavity preparation and extirpation of upper teeth. In extractions, removal of cysts, or any surgical operation infringing upon or involving the palatal plate and soft tissues, the inner and the outer nerve loop must be anesthetized for complete anesthesia.

Subperiosteal maxillary anesthesia is easy to do and produces profound anesthesia of the teeth injected. The cancellous structure of the maxilla permits the anesthetic solution to reach and to render insensible the nerves of both the outer and inner loops.

Technic: Retract the cheek or upper lip outward and downward. Insert the needle into the fold thus defined in the area of the tooth to be anesthetized and deposit a few drops of solution to aid painless deep-tissue penetration. After 30 seconds, the needle is advanced at right angles to the buccal alveolar plate until the periosteum is penetrated; the needle parallel to the alveolar plate, bevel toward bone, is advanced slowly toward the apex of the tooth, depositing a few drops of solution ahead of the needle. At the level of the apex, ½ c.c. of solution is deposited.

The injection into the palate is made in the area of the tooth to be treated, half-way between the gingival border and the median line of the palate, needle bevel toward bone with the syringe directed from the opposite side of the arch, ¾ c.c. solution below the periosteum.

Maxillary cupsids and bicuspids require only one injection. The upper first permanent molar, due to its dual nerve supply, requires two injections, one over the mesiobuccal root, and the other over the distobuccal root. The dense malar bone in this region must be avoided or the needle will be deflected outward.

For the maxillary deciduous teeth the anesthetic solution must be deposited at a point nearer the free margin of the gum.

For the tuberosity injection for the maxillary second and third molars, the needle directed at all times at an angle of 45° with the occlusal surfaces of the maxillary teeth, is inserted into the mucobuccal fold above the distal third of the second molar, and is directed over the apices of the third molar. Swing the syringe externally as far as the corner of the patient's mouth will permit. Direct the point of the needle to the posterior superior palatine foramen wherein the posterior superior alveolar nerve enters the maxilla. The solution deposited at this point gives anesthesia of the second and third maxillary molars. Insert the 15%-inch needle not more than one inch, at all times in lateral contact with the convex surface of the tuber-

^{1.} W. H. Phillits, Detroit, in Ancs. & Analg., Jan. Feb.

osity. If these precautions are observed, the needle will not enter the pterygoid plexus, hematoma will not occur, and profound anesthesia will be produced.

Infraorbital nerve block injection is advocated by many as the most satisfactory method of producing anesthesia of the maxillary anterior teeth.

The extraoral method has advantage over the intraoral, as the anesthetic solution can be deposited directly into the infraorbital canal and can more easily reach as far back as the sphenopalatine ganglion

Mandibular block injection is indicated for all operations in the mandible, since it produces profound anesthesia and can be administered painlessly, owing to the meager sensory nerve supply at the point of needle entry. With the thumb of the free hand palpate the coronoid notch on the anterior border of the ramus. Hold the ball of the thumb in the deepest point of this depression with nail toward the tongue. Hold syringe so its barrel crosses the bicuspid region of the opposite side of the mouth and, guided by the central line of the thumb-nail, introduce the needle with bevel towards the bone until the internal oblique line is encountered. Deposit a few drops of solution to anesthetize the lingual nerve and make advancement painless. Withdraw the needle slightly, and move the soft tissues and needle toward the median plane with the palpating thumb. After the internal oblique line and the temporal tendon are cleared, swing the barrel of the syringe distally a trifle farther if possible and advance the needle until bone is encountered. Retract the needle slightly and deposit one c.c. of anesthetic solution in the mandibular sulcus to anesthetize the inferior alveolar

To supplement the inferior alveolar nerve injection for the extraction of the lower molar teeth, at the anterior border of the ramus at a point level with the occlusal plane of the lower molar teeth nerve block injection is made on the buccal aspect of the ramus. The buccinator nerve is 2 mm. below the mucous surface at this level. The needle is inserted two or three mm., with bevel toward bone, the cheek being drawn upward and outward, and ½ c.c. of anesthetic solution is deposited beneath the mucous membrane.

Sensation through anastomis across the median line when lower anterior teeth on one side are to be operated by aid of a unilateral mandibular block, is obliterated by injecting ½ c.c. of anesthetic solution below the periosteum. Tissue puncture is made at the lowest median point of the mucolabial fold when the lower lip is drawn outward and upward. A few drops deposited at this point before the needle is advanced below the periosteum aids in painless deep tissue penetration.

After five minutes inquire whether anesthesia has been produced. If numbness of the lip and chin on the side injected is felt one usually can be assured of profound anesthesia of the lower teeth on that side

HISTORIC MEDICINE

E. T. BRADY, M.D., Chatham Hill, Va.

MODERATION AN AIM IN EDUCATION*

I shall limit myself chiefly to the *medical aspect* of the question, endeavoring to impress the fact that the office of medicine is, at best, to act as a substitute for moderation. But before enlarging thereon, let us remember that the term moderation—another name for temperance—means just what it expresses, freedom from excess.

Natural laws are but the forms and rules for the use of nature's gifts; therefore the refusal to accept or utilize nature's gifts or methods is no less a breach of, and wrong against, natural laws, than is excessive use, over-indulgence, or abuse of them. In both a moral and physical sense, gluttony is no worse in its effects than is fasting; drunkenness little worse than total abstinence; sloth no worse than over work; the libertine no worse than the fanatic; the ignoramus no more to be deplored than the "scholasticus"; excess in pleasure no worse than refusal to participate in any pleasure.

Some of these remarks may seem queer, and may have touched a discordant note in the minds of some of you, but they will bear investigation. It is the glutton who is apt to call us from our midnight slumbers to ease his overburdened stomach; but we meet with victims of effects equally as bad from privation, either unavoidable, self-inflicted as a moral discipline, or from fallacious ideas as to its beneficial effect? Both have transgressed the natural law of moderation. In the one, the delicacy of the digestive mechanism is strained or worn out by abuse; in the other, it is atrophied from disuse. In the use of stimulants, the toper ruins by excess the life which the total abstainer, when enfeebled, refuses to save by proper use. The gymnast ruins the muscles which the moderate exerciser develops to perfection and the idler weakens by neglect. The speaker, writer, or mental worker, if limited within natural bounds, sharpens and develops into perfection the mind, which the over-zealous strains and the non-thinker lets lapse into uselessness or degeneracy. No form of exercise has ever been put in practice but has, within proper limits, its sphere of usefulness, and

^{*}From the Annual Address to the Public and Profession, delivered September 8th, 1896, before the Twenty-seventh Annual Session of the Medical Society of Virginia, at Rockbridge-Alum Springs. Published in the Virginia Medical Semi-Monthly, Sept., 1896.

equally none which may not, by excess, prove full of danger.

In every condition of life extremism is a natural sin—that is to say, it is a transgression of nature's law. No better proof can be desired than the universal evidence that every excess brings with it its appropriate penalty; if lazy, to be poor; if gluttonous, to be dyspeptic; if intemperate, to be diseased; if luxurious, to die early, and so on. It is the overwrought man of business who first breaks down; the long-distance running champion who first needs a crutch; the gormandizer rouses us to still the twinges of an outraged stomach; the excessive drinker summons us to wrestle with his serpents and scorpions; the hard pressed financier begs us to grant him the rest that will not come; and it is the wasp-waisted, every-dance-of-the-night girl who appeals for alleviation from the tortures of a pain-racked pelvis.

The fate of empires has been said to rest upon the education of its youth, and surely we are all interested in the proper upbringing of those who are to be our immediate successors. Then, without attempting to outline any system of education, let us see to it that whatever system we shall, as individuals, adopt, has as its aim the avoidance of excess, and strive in every way to inculcate the underlying principles of the gospel of moderation—moderation in living, in eating and drinking, in speaking and thinking, in work and in play, with the watchword moderation in all things excess in none.

A very serious stumbling block to endeavor in educational advances has been the general impression that children have natural dispositions or propensities; that is to say, that they are, by nature, born cruel, passionate, proud, generous or affectionate. This mistake arises from the fact that few parents begin to educate their children until they are four or five years of age, at which time their tempers are almost unalterably formed, instead of attempting to teach them control from the earliest moment. Bring together the children of the universe, before the age of apperception, and you will see in them naught but innocence, gentleness and fear. Were they born wicked, spiteful or cruel, would they not show some sign? Little snakes bite, little tigers tear, but nature having been as sparing as furnishing offensive weapons to mankind, as she has to doves and rabbits, gives them no instinct to mischief or destruction.

It is with children in their real infancy that true, effective and lasting education should begin. Both precept and example should be from the moment of birth continually moulding what will soon become an individual character. It is the earliest impressions that bind. Not a defect, nor an excellence in the individual, but can be attributed to some extrinsic cause. Attention given to the first impression may be slight and fleeting; but, before that, the page was bare, and ready to respond to every impress, however slight; and as the sensitized plate catches and holds permanently the most evanescent flash of light, so the vacant but sensitized matter of the brain is ready to catch. and carry to the grave, the most unimportant details of our early mental pictures. Certainly, knowing how momentous a train of circumstances is seen to flow from beginnings of apparent triviality, it becomes us to give to children every advantage which can come from first impressions. Imitation is no less marked a characteristic in mankind, than with our simian kindred; yet, do we not constantly set before them examples which we would loth to have them imitate?

Environment is, then, from this very fact of imitativeness, a factor of far greater potency than heredity, and the general belief in the irresistibility of hereditary tendency has done more to prevent and pervert moral and educational reform than any error of the century. The theory, invented by experts to shield criminals behind a mythical scapegoat of parentage, has saved many a neck which laws, inaugurated by common sense, had prepared ropes to stretch. Yet, numerous as have been these perversions of the ends of justice, they are inconsiderable as compared with the thousands of neglected educations, due to this same theory. Many a child has suffered from this lack of restraint, which has been withheld simply because of a belief that its tendencies were inborn and beyond control, and, therefore, any attempt to control it would be useless. A child thus left to drift acquires neither self-restraint nor self-respect, and is it any wonder that he proves objectionable? Put down this theory of heredity being an excuse for crime; it is as unnatural as it is baneful in its effect. Persons reared amongst criminal surroundings might, on the ground of environment, with some consistency, plead mitigation; but the law, which turns a deaf ear to these pleas, should absolutely refuse to heed the senseless claims which would shift personal responsibility to the shoulders of a past gengeration.

Careful thought and earnest discussion should be given to this question, as it is already given a credence which is a menace to our laws. I would impress upon all, especially upon parents, the fact that there is little or no noticeable, or provable, transmission of mental or moral tendency by inheritance. Only by precept, example, companionship, is a character developed. The offspring of genius are not noted for intelligence, nor are the children of the insane lacking in understanding. Educate a child from birth. Let your example be such as you would like to see registered in its char-

acter, and enlarged upon in its life, thus creating proper first impressions. Instill into him moderation. Balance, not extremism, is the measure of a man. Appetite, desire, ambition, are natural attributes, by no means undesirable, and it is only the power to control them which is needed in an education. Teach them to curb ambition, but not to still it; to control appetite, not to lose it; to set a proper bound to desire, but not to eradicate it.

This inhibitory or control power is the differentiating characteristic between the man and the brute. Turn where we will, in every phase of life, and we find in moderation the desirable state. In medicine, it is the one who practices moderation who brings within reason's practical bound of application the excessive theory of the enthusiastic dreamer. In theology, it is the moderate preacher who wins back those embittered or estranged by the fanatic or bigot. In business life, the moderate operator has the most stable income; in agriculture, the moderate crop brings with it the most general good. And so it is universally.

True, genius is, in one sense, excess. But, upon examination, we find that genius is, as a rule, oneidead, and that the genius, taken as a whole, falls below the measure of the average or moderate man. Preëminent in one line, he is deplorably deficient in others. In educating, therefore, not only should we strive to instill a love for and practice of moderation, but we should equally endeavor to promote a hatred of and disgust for extremism. Moderate winds are the most helpful to the navigator, while hurricanes leave devastation in their path; mild rains are helpful, while downpours destroy. And in daily life, unfortunately, examples of excess and its consequences are far too numerous. The uselessness of, and the general disgust shown for, the drunkard, the bigot, or the fanatic; and the early decay of the victims of excesses, all point the moral. The life of moderation is not only the life of comfort and of health; it is the life of usefulness, and certainly usefulness is one of the chief ends of education.

Finally, moderation in speech is no less important than in other things. It is the expression of extreme views that disrupts cordial relations between individuals, neighborhoods, or States, while moderation in expression conciliates and binds.

HAEMATIDROSIS (BLOOD SWEATING) (George S. Walker, M.D., Staunton, Va., in Va. Med. Semi-Morthly, May 28, 1897)

I present the history of a case of hæmatidrosis (sweating of blood) in the person of a woman patient under my care in the Western State Hospital.

A girl 19 years of age, admitted into this hospital August 15th, 1895, as insane, but she is really more of a congenital imbecile.

When eight years old the patient is said to have had "spasms," but has had none since she has been in the

hospital. She has not been regular in her menstruation for some time, but at the time when her monthly period should appear, she has for years suffered with these anomalous hemorrhages. She said that before she came to this institution she sweated blood. Her statement was looked upon as a delusion by our medical faculty, but her truthfulness was demonstrated by future events.

On the 25th of September, 1895—the time for her catamenia—right breast became very much swollen and sensitive, and in 24 hours serum began to escape from the nipple and areola—space around it becoming tinged with blood, and finally pure blood escaped. The blood would ooze from the surface. The hæematidrosis has never occurred over the whole body or even one-half of the body, but has shown itself in the palm of her hand and in other portions of her body. It has always been unilateral, and always on the right side. Up to this time, her menstruation had been suppressed for months, but her physical health improved, and as the result of the administration of emmenagogues she menstruted, having sufficient flow, and without any complication.

At a subsequent period she was suffering with her breast, and on account of the delay of the flow was given an emenagogue, which was followed by a severe hemorrhage from the bowels. Sometimes she would bleed at the nose, gums, eyes, navel and from the palm of the hand. Again she would have hæemoptysis; another time hæematamesis, again hæematuria.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

THE PASSING OF PLASTER*

IT WILL BE INFORMATION to most of us (1) that, a half-century ago, plaster of Paris was regarded as having passed the peak of its usefulness; (2) that there was even such a thing as plastic woodfibre material.

It is interesting too that the very modern use of plaster applied almost directly to the skin was dimly foreseen.

At the Atlanta meeting of the A. M. A., Prof. Thos. H. Manley, of New York, made the statement that "plaster of Paris as a routine treatment for fracture should be discarded." The writer believes that plaster of Paris as a routine means of surgical fixation is doomed, and that its wane will be rapid, because of its inherent defects and of the advantages possessed by its rival—wood-fibre splinting.

Routine, unless perfection has been reached, is baneful to progress in every field of human endeavor. Happily, in this field of activity, there are willing minds and hands ever ready to welcome whatever tends towards improvement in their art—and hence the power of routine is weakened.

A comparison of facts will render obvious reasons for believing that plaster of Paris at no dis-

^{*}Abstract from a paper read by E. A. Tracy, M.D., Boston, before the Surgical Section of the American Medical Association, Philadelphia meeting, 1897, and abstracted in Va. Med. Semi-Monthly, June 25th, 1897.

tant time will be relegated to its proper position a means of surgical fixation to be employed only when safer and more efficient materials cannot be had.

- I.—Facts of the Plaster of Paris Treatment for Fractures.
- a. Plaster of Paris is dangerous, and sometimes deadly to the incased limb.
- b. It does not, as generally supposed, immobilize the enclosed parts. A moment's consideration makes one clearly understand how futile it is to expect the immobilization of limbs swathed in soft and compressible cotton by a rigid bandage outside the cotton. Supposing fixation to be efficient at first, it is soon destroyed by subsidence of swelling, and later, by tissue atrophy that always takes place in an idle limb.
- c. It is destructive of the functions of injured joints by preventing the timely application of passive motion to them.
- d. Plaster dressing prevents the surgeon's ready inspection of the parts treated—a condition not tolerated in any ordinary wound, and which, for as grave reasons, should not be tolerated in fracture cases.

II.—Wood-fibre Splinting

The material is made in large sheets, of two thicknesses, to serve all kinds of splinting. A splint can be made by cutting a suitably shaped splint blank from a sheet of the material, moistening it with water, and bandaging the moistened splint form over the part to be splinted.

The shape of the splint blank varies with the case treated. The correct shape for the blank is readily gotten by cutting a paper pattern so as to enfold the parts in the manner we wish the completed splint to enfold them, and then, following this pattern, cutting the splint from a sheet of the splint material. The splint, having been made and applied correctly, will hold the parts to which it be applied in fixation, from the moment of its retention by a roller bandage. It should be let dry upon the limb, and after twelve hours, the author's practice is to remove it and then to reapply it, thus getting ocular testimony as to the condition of the parts.

- a. Wood-fibre material is adaptable to the treatment of fractures of all the limbs, it being mouldable directly upon the patient's limb.
- b. It produces immobilization of the parts, because moulded directly upon them and retained thereon, without the intervention of cotton-batting, which defeats our object, if it be fixation. This efficient immobilization is easily maintained by keeping the roller bandage snugly applied over the resilient splint; thus, subsidence of swelling, or

tissue atrophy, need not interfere with the fixation produced by wood-fibre.

- c. It permits the surgeon to inspect at any time the fracture he is treating, by the simple unwinding of a roller bandage. The reapplication of the splinting is easy—there being no pads or compresses to become disarranged.
- d. This ready removal of the splinting permits the timely application of passive motion.
- e. Wood-fibre splinting is lighter than any other; no complaint is heard from the patient because of its weight—even in cases where the hip and knee are both immobilized.
- f. Wood-fibre material is strong, rigid and durable—splints made from it having been worn in some cases (hip fixation) for eleven months. The material is clean, porous and does not irritate the skin. In many cases, splints have been worn for weeks immediately in contact with the skin, and without excoriation of the skin resulting.
- g. No padding is required in splints moulded from wood-fibre material, in most cases it being applied directly over the skin.
- h. Wood-fibre material permits of rigid antisepsis in the treatment of compound fractures, both of the wound, always accessible by removal of the bandages, and also of the splint material, by moistening it with a strong solution of corrosive sublimate.
- i. The mastery of wood-fibre splinting readily comes to one possessing a modicum of mechanical ability, and who faithfully follows the instructions given. No more skill is required to attain it than is necessary to recognize and manipulate ordinary bone and joint injuries.

Though this mastery of the material may be difficult to attain, it would be well worth the effort for the compensatory complaisance which the practitioner enjoys in the conscious power to be able to splint any case that presents itself, he moulding the splint to meet the indications of the individual case. Such splinting is scientific, for it presupposes that the practitioner knows the indications that should be met in a given case, and that he knows how to meet them. It contrasts strongly with the employment of manufactured splints.

MIND THERAPY IN GENERAL PRACTICE

It is no new thing for doctors to recognize and speak against the inclination to treat lightly the patient showing no physical signs of disease. Fifty years ago a small-town Alabama doctor, Dr. John P. Stewart, spoke* instructively on this subject.

^{*}Read before the Tri-State Medical Association of Alabama, Georgia and Tennessee, in Nashville, October 12, 1897. Abstracted from the Va. Med. Semimonthly, Dec. 24th, 1897.

Hitherto, our good, honest, scientific and uncompromising doctor has poo-pood every complaint, every tale of woe, or story of suffering poured into his unsympathetic ear, which failed to show sufficient cause for disease; and the timid neurotic has sought and found a place to carry his woes and dollars in the legion of quacks that wait without the walls of legitimate medicine. And so, it behooves us not to stand idle all day, while the harvest is waiting. Let none go by that seek our help. And if it takes flowers instead of bitterherbs, attar of roses instead of assafætida, it should not only be our duty, but our pleasure, to give them, red-hot or ice-cold, sugar-coated, gilt-edged, and soft-soaped, to that degree that will give satisfaction to the mind, tastes and fancy of our patients. This will make them comfortable and grateful.

Psychiatry has long been a deep study with scientific men. From the days of Plato, Socrates, Aristotle, Hippocrates, and Galen, on down, such poor afflicted mortals have been a phenomenon to the profession. They have been possessed of gods, devils, demons, witches and what not, from age to age. We have some psychical manifestations that fill the soul of the spiritualist with felicity. Each individual case must be studied out and treated according to its own peculiarities. Yet, there is one thing to be remembered: Those in this condition must not be classed with the imbecile, demented, or insane. Their minds are bright-sometimes remarkably so; their ideas fine, their conversation intelligent, they have a lucid idea of the cosmology of things, and an appreciation of their natural eternal fitness. 'Yet, upon one thing the cog slips and the loose screw goes rattle-a-tap, till you wonder, as you gaze into the face of your whining patients, if they are crazy. Here is where we must have patience with our patients, smile our sweetest, and listen with great interest and deep concern to their long-winded and tiresome tales of woe. Look wise and say much, using all the medical terms that can be agglomerated into verbose and long-drawn sentences. Have a deep and learned name for every ache and pain; and prescribe some anodynal placebo, until you have time to study your case. Get the history of parents, brothers, sisters, etc., and learn all the surrounding circumstances, habits, etc., if it takes months. When master of the situation, you can, by using little medicine and lots of "sphengalism," effect a permanent cure. A strong mind is good medicine for a weak mind; some people love witchery, mystery and myth; they feed on it with gusto. Give them all they want; don't let them go away dissatisfied; if you do, they will hunt a cure in some other doctor's office.

It is a smart doctor that keeps the *modus opercndi* to charm this class and knows how to work it for their mutual good.

A cure should always be attempted in these cases. These are the kind that fill divorce courts, and make marriage a failure. Healthy love is of slow growth, enduring and lasting. The majority of our suicides are caused by wild, abnormal, morbid adoration; the whole being is consumed with the one idea. We must it intelligently and seriously.

I know that there are many who are ready to say that these cases are only the temporary rattle-brain folly of youth. But during the temporary, rattle-brain folly of youth there have been said and done things that marred the whole life current thereafter, and caused what otherwise would have been a useful career to be diverged into the byways of degradation, sin and vice. Our prisons, hospitals, asylums and slums are filled with neglected cases of temporary rattle-brain follies of youth.

We must shoulder the responsibility largely of the moral as well as the physical health of this neurotic *clientele*. Many physicians are responsible for whiskey, morphine and cocaine habituation: and there are other more demoralizing and degrading practices for which the profession has been held responsible.

No one should take upon himself the duties of a doctor unless he fully understands and has a true heart, a strong mind, a healthy body, Atlantan shoulders fit to bear the weight of mightiest monarchies.

The vocation of our science is to throw a protecting wall around the healthy, and by quarantine, sanitary and hygienic regulations, make the human family healthier, stronger, wiser and happier. Then, perchance, should dread disease in any form make a successful attack upon our walls and storm the citadel, our duty is to fly to their relief, and take up any weapon that will successfully combat the enemy.

Reading the ideas then expressed warns us, just as today's neurologists do, of the error of thinking or telling the patient it is all imagination; also, it brings up in our minds the question of how far an honest doctor may go in adopting the practices of those who "wait without the walls of legitimate medicine."

A few months later a Washington surgoen, Dr. I. S. Stone, spoke* along the same lines. He well emphasizes the fact that mind-cure is practiced more or less in every case of illness.

To Charcot, perhaps more than any other mod-

^{*}Read at a meeting of the Medical and Surgical Society of the District of Columbia, January 6th, 1898. Va. Med. Semimonthly, Feb. 25th, 1898.

ern physician, belongs the credit for having rescued the practice of mental therapeutics from the deep sea of fraud and imposition, to which it was consigned by an honest, if not a discriminating profession. The phenomena of hypnotism, so closely allied to mental therapeutics, were never placed on a practical or rational basis until this wonderful man gave the seal of his approval. Alienists and neurologists have no monopoly of the practice, and all successful physicians must practice it, and often more than they know, rely upon its potent influence for good.

Our neurotic subjects are those best adapted to the process of cure by suggestion. Many nervous woven demand some application of the mind-cure in every variety of disease, just as they manifest a neurotic type of every illness. The prescription of valerian or asafætida, without the odor or name, would fail lamentably. The use of suggestion in these cases does not preclude the administration of suitable other remedies.

The author's method does not necessitate a resort to hypnotism, for he has rarely found his cases to have need for the induction of sleep. He relies upon suggestion very largely. The physician should inspire confidence, through his ability to master every situation, but should rarely, if ever, ask for implicit faith. Let the patient have all possible faith or confidence, yet without the suggestion that

this is a prerequisite to success.

Nearly all of such patients are victims of many psychical disturbances. Each case must be studied carefully. We must never be satisfied to say, "Your disease is imaginary." This error is fatal to success. These peoples are sick, and are unable to obey the command, "Rise up and walk." The most striking defect is lack of will power. There seems to be a paralysis of the will in some cases. The desire to recover is almost or entirely lost. We must first test the patient's ability to comply with our demands. There may be real and not fancied loss of power. Our treatment will fail if we do not correctly estimate the real desire to recover. Does she prefer to remain in bed, to be nursed and perhaps petted and spoiled? Or does she find in your presence and influence something she recognizes as superior to her own will, or perhaps her clever and astute conceit? Many of these invalids deceive themselves and others. The physician, at times, is in despair at the frequent and exacting demands upon his resources, which are taxed to the utmost if he succeeds in overcoming the foibles of these chronic invalids.

Let us remember there is no need of any claptrap or nonsensical or undignified practices. Our aim should be to proceed cautiously, and be very sure of our ability to cure, before we promise the patient much. The administration of tonics or any drugs will as a rule prove useless. This is quite as true of the antispasmodics. Many of the most perplexing of these cases have contracted a drug habit. Dr. Weir Mitchell says he would not undertake to cure a case of morphine addiction without massage.

As nearly all of these poor sufferers are the victims of one or perhaps many delusions, our first duty should be to study how to minimize the evil effect of the delusion rather than make a prolonged attempt to change the patient's opinion by any process of reasoning. They are not willing to be convinced and besides have very strong and resolute, if erratic opinions.

The whole plan of treatment may be summarized thus: First, obtain a dominant influence over the patient, and then indicate the entire course of the life, at least while under treatment. The physician's will, and not that of the patient, must be supreme. This is a good rule in any event, or under any circumstances, for it is impossible to practice the mind-cure without it, and the writer considers it the most important of all influences at our command.

A definite amount of exercise, or a duty to perform at a certain hour each day, with unvarying and unrelenting persistence, will often make a patient walk in a few weeks who had not stood alone for years. These invalids ought to be cured if they have no organic disease. It is of course useless to make any rash claims for the mind-cure.

Now that nearly everybody smokes cigarettes, we seldom hear them called coffin-nails; and, instead of condemnation of cigarettes as worse than cigars or pipe, we see representations of the comparatively harmlessness of the various brands of cigarettes.

It was not always so. Here is a sample¹ from the medical literature of 50 years ago;

And here another:2

Twenty years after these two papers were published at least one State of our Union had a law more or less in force prohibiting the sale of any cigarettes within its borders. Then legislators smoked pipes, chewed or dipped. Now most of them smoke cigarettes!

ONLY A FEW SPECIES OF SPIDERS TO BE FEARED

(R. W. Thorp and W. D. Woodson, Los Angeles, March issue of Hygcia, The Health Magazine)

The banana spider is a tropical species which appears in the United States hidden in bunches of bananas. . . . The creature is not related to the large, hairy tarantulas of Southwestern United States. . . The bite of this spider may be sharply painful but not dangerous. . . .

The tarantulas have earned an awesome reputation. Scienists and laymen for many years held the opinion that such huge spiders surely possessed venom with a potency dangerous to man. This was negatively answered when human beings in several instances induced the creatures to bite them, and the resultant pain proved to be equal to about that of two or three bee stings....

Within the United States sixteen species of trapdoor spiders have been discovered, eight of these exclusively from California. . . . Naturalists marvel at their ability in excavating a burrow, lining it with waterproof silk and closing it with a hinged door. Scattered, unverified reports through the year mention much suffering, and even death, resulting from their bite. Scientific investigation has discounted this conclusion. Symptoms resulting from their bite under normal conditions will be local, and they as a class cannot be considered as greatly harmful to man.

Most widely distributed of the spiders dangerous to man are those of the genus Latrodectus. In Latrodectus mactans is included the ill-famed black widow.

A cause for bewilderment to many has been the fact that some victims of the bite of the black widow experience no ill effects, others only mild effects and still others agonizing pain. Most significant reason for this is that the striated muscles which surround the poison glands of the black widow spider function only when she chooses. She may thus inject her fangs into a human being and deposit no venom, or may secrete the maximum contents of her poison sacs.

The banana spider, various species of tarantulas and their relatives, the trapdoor spider . . . have all caused varying degrees of injury to man. Only these and spiders of the genus Latrodectus, of which the black widow is a heralded member, need to be feared.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

VITAMIN DEFICIENCY DISEASE USUALLY MULTIPLE

IN OUR EAGERNESS not to lay ourselves liable to the charge of practicing polypharmacy, we may err in prescribing too few vitamins for a patient. An excellent article by one of our own authorities¹ emphasizes this important fact.

Vitamin deficiency disease may result from indulgence in dietary fads, alcoholism, prolonged and severe restrictions in diets prescribed for the relief of allergic conditions or gastro-intestinal and biliary disturbances. Of equal importance with inadequate or improper diet is failure of absorption or utilization of vitamins when the intake seems sufficient. Common "intrinsic" causes of avitaminosis are gastric achlorhydria, chronic diarrhea of any etiology, biliary and hepatic diseases, and frequent vomiting. In the same category may be included the various conditions which create an increased demand for vitamins, such as fever, pregnancy, unaccustomed work or hyperthyroidism. The use of dextrose solutions given intravenously

for long periods is also a common cause of severe acute avitaminosis.

The general pattern of vitamin deficiency is usually determined by a lack of thiamine hydrochloride, niacin (nicotinic acid) or riboflavin. The majority of patients manifest symptoms of multiple vitamin deficiency.

The early symptoms of thiamine deficiency are fatigue and anorexia and may be associated with nervous irritability, forgetfulness or confusion; others are doughy calf muscles, a burning sensation of the soles, and pain on pressure to the muscles, often loss of pain sensation over various skin areas, and tendon reflexes exaggerated, glossitis, maybe hyperesthesia of the buccal mucosa. Frequently a slight pellagrous dermatitis and corneal vascularization develop.

Wet beriberi is common and is usually diagnosed as heart failure not responding to digitalis or diuretics; abdominal distention with constipation and a "silent abdomen" are characteristic. Achlorhydria, anemia and hypoproteinemia are no more common in patients with frank beriberi than they are in those with pellagra.

Of niacin deficiency (pellagra) dermatitis is a late and rare manifestation which may occur in the absence of other specific signs. In mild cases psychic symptoms may precede all other signs. Frequently gastric discomfort and constipation accompany the initial nervous syndrome. Anorexia and constipation are complaints at this stage, diarrhea at intervals for a day or two. Stupor and the signs of "nicotinic acid deficiency encephalopathy" are seldom seen in the presence of typical dermatitis, though glossitis or vaginitis is present in almost every instance.

The signs of ariboflavinosis occur more frequently than those of any other avitaminosis. The characteristic signs may occur without signs of deficiency of other vitamins of the B complex. In advanced cases fissures about the angles of the eyes, septal fissures and ulcers in the nose and severe keratitis with vascular invasion of all layers of the cornea have been noted. Itching dermatoses of the genitals and perineum are common. Such patients have shown symptoms or signs of thiamine and nicotinic acid deficiency.

Much more striking as an example of polyavitaminosis is the so-called "tropical avitaminosis"—soreness and desquamation of the lips followed by fissures in the commissures of the lips, conjunctivitis with fissures at the canthi, photophobia, dimness of vision, glossitis, and an eczematous dermatitis of the genitals. In addition there may be calf tenderness and hyperesthesia of the soles and severe corneal vascularization.

The treatment of the various manifestations of avitaminosis remains empirical. Because of organic

^{1.} V. P. Sydenstricker, M.D., Augusta, Ga., in Jour. Mich. Med. Soc., Sept., 1942.

changes in the gastro-intestinal tract which are the result of prolonged vitamin deficiency the amounts of vitamins required for effective treatment are apt to be greatly in excess of theoretic requirements. The administration of a single vitamin of the B complex in large amounts may produce rapid improvement, but if continued, characteristic manifestations of other avitaminoses will appear. The probable cause of this phenomenon is the exhaustion of reserves of stored vitamins used in chain reactions made possible by an ample supply of one of the series.

The basis of treatment of all avitaminoses is an adequate diet. For rapid cure, then, the diet should be supplemented with ample amounts of synthetic vitamins and also with yeast or crude extract of liver. Every case of severe avitaminosis is a medical emergency which must be treated as actively as diabetic coma or mercurial poisoning. Since the water-soluble vitamins are rapidly excreted in the urine it is necessary to give large daily doses, in relatively small aliquots, at frequent intervals. · When retention or absorption is doubtful intravenous or intramuscular injection is the route of choice. Patients respond more rapidly when crude extract of liver is used in conjunction with synthetic vitamins. The optimal dose of injectable liver extract is from 3 c.c. to 5 c.c. daily.

In beriberi, thiamine hydrochloride should be given, 10 mg. from three to ten times daily, depending on the severity of the manifestations. In the less severe forms of vitamin B_1 deficiency from 3 to 10 mg. daily may be adequate. In addition at least 3 mg. of riboflavin and 50 mg. of niacin should be administered until all evidences of avitaminosis have disappeared. In ariboflavinosis it is extremely difficult to predict the effective dose of riboflavin; from 6 to 15 mg. is the average daily dose. At least 3 mg. of thiamine hydrochloride and 50 mg. of niacin should be included.

In pellagra and specific cerebral manifestations of niacin deficiency, from 600 to 1800 mg. of niacin each day until a cure is effected. The complement of thiamine hydrochloride should not be less than 6 mg., and of riboflavin at least 3 mg.

The role of pyridoxine in human avitaminosis is still unknown. It is possible that this vitamin has to do with the utilization or mobilization of other members of the vitamin B complex group. No definite dosage can be prescribed, but experience suggests amounts of 5 mg. daily.

Dr. Carlos Juan Finlay in 1881 postulated before the Havana Royal Academy of Science the theory that the mosquito carries "a transportable substance, perhaps an amorphous virus, or a vegetable or animal germ" from the yellow fever patient to a new victim. This theory was given little credence. For two decades physicians continued to fight the straw men of miasma and filth, the supposed

causes of "yellow jack," while Finlay patiently reiterated his accusations against the mosquito. Studies of his own convinced Finlay that Stegomyia Jasciata was the chief culprit, but sufficient funds to conduct the necessary experiments that might have proved the point were not available to him.

-Clinical Excerpts.

DERMATOLOGY

J. LAMAR CALLOWAY, M.D., Editor, Durham, N. C.

TINEA CAPITIS

Fungus infections of the scalp with the exception of favus occurs almost exclusively in children before puberty. Microsporan lanosum is the predominant causative organism although M. audouini, T. gypseum, T. violaceum, T. crateriforme and others in this group may sometimes be found to be the offending agent. Tinea capitis is the most contagious of all fungus infections. It is frequently seen in school groups and when a child is found to be infected he should immediately be isolated lest the infection spread throughout his associates.

Microsporan lanosum is frequently contracted from animal pets. M. audouini is almost never found in animals, and is usually transmitted from person to person. Dermatophytids occurring as grouped follicular lesions over the trunk, arms and legs are frequently seen following the inflammatory type of tinea capitis.

The diagnosis is established by the clinical appearance, by the use of the Wood's filter, culture of suspected material, trichophytin test (most often positive in the inflammatory type) and by examining scales, crusts and hairs in 10-40 per cent potassium hydroxide. The differential diagnosis must exclude pyodermia, seborrheic dermatitis, trichotillomania, alopecia areata, folliculitis decalvans, secondary syphilis, lupus erythematosus and some of the rarer dermatoses.

The prognosis in tinea capitis depends on the causative agent. If microsporan lanosum (animal type fungus) is found then one may expect satisfactory response to local treatment measures. If, however, the fungus is the microsporan audouini (human type) x-ray therapy is almost always necessary to effect a cure. Because of the necessity of exact dosage x-ray therapy must be administered by one especially trained in its use.

Treatment procedures in addition to specific therapy should be directed along the lines of certain general principles:

 Isolation of patient. The patient must not be allowed to use the combs, caps, hats or other personal effects jointly with family or friends. 2. Daily soap and water shampooing.

March, 1943

- 3. 1:6000 potassium permanganate compresses if severe inflammatory reaction or secondary infection is present.
- 4. 5 per cent ammoniated mercury ointment rubbed in well twice daily or
- 5. 3 per cent sulfur precipitate and 3 per cent salicylic acid in aquaphor rubber in twice daily or
- 6. U. S. P. iodine ointment (do not use in conjunction with or in close succession to mercurials).

This treatment regime will usually cure the animal type of tinea capitis caused by M. lanosum. If, however, the disease is caused by M. audouini or the other animal types of trichophytin, epilation will be necessary.

- 7. After all of the inflammatory reaction has subsided x-ray therapy in epilating doses (experts only) should be administered,
- 8. Remove all remaining isolated hairs by manual epilation.
- 9. Continue to use the 3-5 per cent ammoniated mercury ointment once daily to catch any scattered hairs. The Wood's filter is helpful in finding these hairs.
- 10. The hair should regrow in two to six months.

SURGERY

GEO. H. BUNCH, M. D., Editor, Columbia, S. C.

EROSION OF PEPTIC ULCER INTO HEAD OF PANCREAS

SUCH EROSION in most cases is admittedly an indication that the ulcer has progressed in spite of medical treatment. The condition in a high percentage of cases demands surgical intervention. In addition to intractability, which is the rule, hemorrhage and chronic pyloric obstruction often occur to make operation imperative.

At exploration the surgeon is faced with the responsibility of deciding what type of operation is indicated in the individual case. The first problem is to save the patient's life-to control the bleeding, to relieve the obstruction; the second problem to excise the ulcer and remove enough of the distal end of the stomach to reduce gastric acidity to a degree that ulcer will not recur either in the stomach itself or along the line of the gastrointestinal anastomosis.

Massive gastric hemorrhage complicating ulcer comes as a rule from erosion into one of the larger arteries in the head of the pancreas. The stomach should be bisected above the mass and the proximal end of the distal segment used to make traction to facilitate the removal of the pylorus with the ulcer, after which the bleeding point can be better seen and the vessel tied. Experience has repeatedly shown that, although the ulcers be not actively bleeding at the time of operation, putting the distal end of the stomach at rest by closure and anastomosis of the intestine to the proximal end of the stomach is no insurance against recurrent bleeding.

In obstructive lesions there is an indurated. deep-seated, more-or-less fixed pyloric mass which involves the head of the pancreas. Most cases occur in middle-aged or elderly patients, with a long ulcer history-a group in which cancer of the stomach and of the pancreas is common. From pancreatitis about the ulcer there is apt to be local softening and necrosis of the gland.

Removal of the pylorus with the ulcer under such conditions, although the ideal procedure, may be fraught with prohibitive hazard. Because of inflammatory congestion operative hemorrhage is apt to be severe. Because of fixation to the head of the pancreas so much of the duodenum may have to be removed that after resection adequate closure of the proximal end of the distal segment of the duodenum may be impossible. And finally, there is the danger of injury to the common bile duct in such extensive operations in this region. The duct may be cut or its inadvertent inclusion in a ligature result in total biliary fistula in the one case and in obstructive jaundice in the other. Resectability of the ulcer depends upon conditions found in the individual case, and judgment based upon long operative experience is apt to be fallacious.

The fate of the patient whose obstruction is relieved by gastro-enterostomy but whose ulcer is not removed is problematical. With erosion into the head of the pancreas he faces a life of invalidism in the constant fear of hemorrhage. Unfortunately, penetration into the pancreas can seldom be shown by x-ray examination; nor can accurate identification of the ulcer in this portion of the duodenum be made; so the state of the ulcer at any given time can be only guessed at from the clinical symptoms.

The \$500 RESEARCH PRIZE annually offered by the AMERICAN UROLOGICAL ASSOCIATION will not be awarded this year.

The Government has again discouraged the holding of medical conventions, except those primarily of military interest-and at these there is to be a ban on social events. Under the circumstances, plans for the June meeting of the American Urological Association in St. Louis have been cancelled.

Yours very truly, Miley B. Wesson. Chairman, Committee on Research, American Urological Association.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

THE USE OF RED CELLS IN BLOOD TRANSFUSIONS

So MANY persons have had much to do with our present-day knowledge of blood, the preservation of blood for transfusions, and blood plasma, that it is difficult to give credit to all who deserve more than honorable mention because of the tremendous amount of work they have done, the knowledge they have added, and the methods they have developed in connection with the transfusion of blood or blood elements from one individual to another.

Here, it is not out of place to mention Dr. Walter Brem, a Burke County boy, who some 30 years ago, while living in California, did much work on the preservation of citrated blood by refrigeration—a help at times, but as a rule plasma is more satisfactory for immediate use where there has been a great loss of blood. Then as quickly as possible have proper donors typed and properly matched and give the patient whole, fresh blood.

The utilization of every part of blood which is collected is important, and for sometime we have been using the red cells that remain after separation from the liquid elements in the preparation of plasma. Cooksey of Detroit in a personal communication states that, in order to get the best results from red cells left in the preparation of plasma, this should be done immediately after the plasma is siphoned off.

The usual method of preparing the cells for transfusion in patients who are lacking in the cell elements of the blood rather than the liquid portion is to dilute these immediately with normal saline solution. The correct percentage of saline solution, however, is necessary in order to prevent hemolysis or other unfavorable changes in the red cells. In this way the blood cells may be stored for several days just as whole citrated blood has been stored in the past.

Before giving these blood cells typing and crossmatching is necessary just as if whole blood were being used, and one must be certain that the blood cells are compatible with the patient's blood before a transfusion of cells is given.

Careful watch must be kept for hemolysis and for contamination.

This blood may be kept up to six or seven days if properly prepared and kept, but beyond that time it should not be used.

Blood cells may be given in case of sepsis with severe anemia, in secondary anemia due to bleed-

ing from any cause, and, also, in pernicious anemia and a number of the aplastic anemias, cancer and leukanemia.

Naturally, where there is no hypoproteinemia a transfusion of red cells is just about as good as a transfusion of whole blood. We can give a large quantity of red cells to a patient in a short space of time. The reaction rate is less than when whole blood is given.

It seems that the best method to use in preserving the red cells is to add saline to bring the blood up to proper volume. In other words, replace the plasma with saline. This is merely adding enough saline to the blood cells to bring them up to the proper volume. This should be done *immediately* after the plasma is siphoned off, as every hour of delay in diluting the cells with normal saline results in a certain amount of increased fragility and hemolysis.

The addition of glucose to cells has been made very satisfactorily but, because of the affinity of glucose or sucrose solution for the red cells, there is often a definite hemolysis.

After the red cells had stood for a few hours and saline is added and mixed very gently considerable hemolysis takes place. The red cells just do not stand up well. Immediate dilution with saline enables the blood cells to be kept just as well as whole blood in a blood bank.

In the light of our present knowledge, the addition of normal saline solution to the red cells is the most satisfactory way of handling this and preserves the blood with a minimum of increase in fragility and hemolysis, enabling us to use the blood cells which heretofore have been discarded but which we have found so helpful and useful in many cases. In one instance here we have given 28 transfusions of red blood cells from different donors to one patient suffering from aplastic anemia. There were no reactions in any case except at one time there was a slight chill, without any particular disturbance otherwise.

We have found the blood plasma bank and the preservation of red cells ready for transfusions to be of immense help, especially in emergency cases. Many lives are saved by the prompt administration of blood plasma and by blood transfusions generally. The results are often spectacular.

Another fact with which we have been greatly impressed is the frequency with which we find anemic conditions in patients who are convalescing from some illness or surgical operation. Anemia occurs far more frequently than anyone would think un'ess the blood counts and hemoglobin estimates are routinely made. For this reason certain laboratory examinations should be made on all

convalescing patients. These patients recover far more rapidly when the medical and other treatment is supplemented by one or more blood transfusions, either of red cells or whole blood.

In cases of hypoproteinemia, transfusions are a great help, both in tiding the patient over an acute, critical period and in hastening convalescence.

ABDOMINAL PAIN—(IN LEFT SIDE, DUE TO GALLBLADDER DISEASE)

(Arnold Schwyzer, St. Paul, in Minn. Med., Jan.)

Last winter I had a patient who had suffered for years from headaches and a vague abdominal distress. She then developed a pronounced local tenderness under the left border of the ribs. When one pressed under the left border of ribs she winced with pain while she did not complain when the same pressure was applied on the right side. X-ray examination of stomach, colon, and also for possible diaphragmatic hernia, gave normal findings. The gall-bladder, too, functioned normally on röntgenologic study. The patient was generally run down and despondent on account of carcinophobia; but she was not of the common complaining kind. The proposal to open and examine was gladly accepted by the patient—a fact which confirmed our impression that there must be some definite pathologic process behind all this.

At operation the stomach and all the left-sided organs were found to be normal. The gallbladder, which we had under suspicion, was white, but did not show any adhesions, nor was there a fibrous network in the overlying liver tissue commonly found in chronic infection of the gallbladder. There were no stones. Hesitatingly we removed it and also a long, club-shaped appendix. On opening the gallbladder it proved to be of the strawberry type. Eight days after the operation the notes read that she felt very well, was up and about since two days after the operation, and had no complaint. The daily headache from which she had suffered for 15 years had gone since the operation and also the left-sided pain. None of these symptoms had troubled her from then on. Here we had a misleading localization of a referred pain on the opposite side.

PENILE CANCER ALONG WITH SYPHILIS

(V. C. Laughlin, Cleveland, O., in Ohio State Med. Jl., Jan.) White, single sign painter, 41, September 26th, 1941.

In May, 1939, noticed a small hard lump on the dorsum of the glans near the corona, which became larger. Blood was positive for syphilis and antisyph, treatment was again begun and followed intermittently. The lesion was thought to be syphilitic. The following February the growth broke through the foreskin. The patient changed physicians but antileutic therapy was continued. The foreskin could not be retracted at this time. The patient traveled extensively, necessitating a variety of different doctors and from all these physicians he continued to receive arsenical therapy.

The lesion became progressively worse, since January, 1941, becoming a large ulcerative mass which destroyed the distal 1/3d. At this point the patient consulted Dr. Edward Marshall, who made the diagnosis of squamous-cell carcinoma, by biopsy. No pain at any time. Argyll Robertson pupils, and the left eye showed a slight external strabismus. The mental state was normal, coöperative and intelligent. There was no adenopathy except in the inguinal regions where some of the enlargements represented metastases. The balance of the physical examination was negative.

TWO CASES OF ACUTE BICHLORIDE OF MERCURY POISONING TREATED WITH SODIUM THIO-SULFATE AND SODIUM FORMALDEHYDE SULFAOXYLATE

(R. W. Lominack, Charlotte, in Jl. S. C. Med. Assn., Feb.)

Case 1.—A middle-aged white man, was admitted to the emergency room an hour after swallowing seven 7½-grain bichloride of mercury tablets in an attempt to commit suicide, with edema and cyanosis of oral mucous membrane, rapid pulse and respiration, constant retching, profuse salivation.

He was given immediately the whites of three eggs, a levine tube was passed and the stomach washed with 2,000 c.c. of a 5-per cent solution of sodium formaldehyde sulfaoxylate. Ten c.c. of a 10-per cent solution of sodium thiosulfate was given intravenously and 3 oz. of a saturated solution of magnesium sulfate was placed in the stomach. The tube was removed and the patient admitted to his room where 1000 c.c. of a 10-per cent solution of glucose was given intravenously; a glass of milk every three hours with a raw egg; 1000 c.c. of a 10-per cent solution of sodium thiosulfate was given intravenously daily for seven days. As soon as tolerated a soft diet was given. The fluids by vein were discontinued when the patient could take 3000 c.c. or more by mouth. However, the sodium thiosulfate was continued for 10 days.

Six hours after admission the patient passed one large stool containing dark red blood, and the following day another with bright red blood. Afterwards, for constipation mineral oil was given b.i.d. No other blood was passed by rectum.

Daily urine specimens were examined. On admission the urine showed. +2 albumin and 20 or 30 r.b.c. per h.p.f. No casts were seen. All subsequent urine specimens were negative, as was another run six weeks later. At no time was there any loss of kidney function. The patient made an uneventful recovery and was discharged in 13 days. He is now serving in the Army.

Case 2.—A white girl, 19, attempted suicide by taking four 7½-grain bichloride of mercury tablets, brought in three-quarters of an hour after taking the dug. The appearance on admission was similar to that of the preceding case but the edema of the oral cavity was less. The treatment was the same except the stomach was washed with sodiu mthiosulfate instead of sodium formaldehyde sulfaoxylate, as the latter drug was unobtainable at that time.

Urine on admission showed 2+ albumin, occasional r.b.c. and 4+ hyalin casts; six hours later it was negative and remained so. The urea nitrogen was 11 mg. per cent and urine output was normal. No blood was ever seen in her stools and she was discharged in eight days; urine negative one month after admission.

At the time of taking the drug this patient was on active arsenical treatment for syphilis.

Results are in accord with those of others reported.

THE NORTH CAROLINA ACADEMY OF PUBLIC HEALTH

Two hundred employees of the State Board of Health, including directors and consultants, met in the auditorium of the State Laboratory of Hygiene in February and launched the North Carolina Academy of Public Health, which, so far as is known, is the first organization of its kind in the United States.

This newly-created organization elected the following as its first group of officers: Dr. George M. Cooper, Assistant State Health Officer, President; Dr. Ernest A. Branch, Director of the Division of Oral Hygiene, Vice-President, and Mrs. Annie B. Edwards, the efficient secretary to the State Health Officer, Secretary-Treasurer.

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Pediatrics

As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

CAUSES OF ERROR IN CANCER DIAGNOSIS

A HELPFUL ARTICLE¹ well calculated to improve results in cancer cases of those who take its lessons to heart is given in substance:

Actual cases are used as the basis of this presentation. Cancer is not a chronic disease. Cancer is an acute, progressive disease that demands early recognition, prompt intervention.

Diagnostic errors fall into three categories as they concern 1) the patient, 2) the physician, and 3) the pathologist and his methods. Human procrastination; reluctance to see his doctor and hear the bad news; the misconception that he has a shameful disease; self medication; the misfortune of falling into the hands of quacks—all these are important factors.

We proclaim that cancer is curable if it is recognized in its beginnings. The earlier the malignant lesion the more difficult is its identification. The early cancer lesion defies accurate identification by eye and sense of touch, regardless of training or experience.

The tragic mistakes which may be laid at the door of the clinician may be grouped in six categories: Failure to heed the patient's story; failure to make a thorough examination—e.g., by failing to go through the simple maneuver of putting a finger in the anus; not ruling out pregnancy in every woman within the child-bearing period; the "let us wait and see policy"; failure of the clinician to use the special training and equipment of his medical colleagues—the radiologist, the pathologist, the bronchoscopist, the urologist and other specialists.

A woman, 35, had a radical breast amputation for a "tumor." It was a syphilitic gumma and postoperative serological reaction showed a strongly positive Kahn test.

Bilateral, simple mastectomy was done for "cystic disease." Later the pathologist found that one breast contained a small carcinoma. But, which one?

A 48-year-old woman had glands of the left axilla removed and sent to the pathologist for frozen biopsy. But, within eight minutes, before the pathologist had time to deliver the report, the surgeon had whipped off the entire breast. The diagnosis: lymphosarcoma of axillary lymph glands; no relation to the breast.

The radiologist should be used as a consultant in medicine. He is the best judge of the technique to be used in the diagnosis of a given lesion. Many neoplasms are missed because the referring physi-

^{1.} Wm. M. German, Cincinnati, in Cin. Jl. of Med., Mar.

cian has restricted the radiologist to a specified exposure of a given area. In the field of x-ray therapy frequently the physician dictates to the radiologist the technique of a specialty of medicine of which he knows little. We should leave preparation of the patient for radiological diagnosis to the radiologist. Many tragic mistakes can be laid to the physicians who prefer to read their own films.

The pitfalls in pathologic diagnosis are legion. Whenever possible, tumor diagnosis should be made by the surgeon and the pathologist at the operating table. The pathologist should be the the judge of the desirability of making a frozen section, since he, better than the surgeon, knows its uses and limitations. A biopsy site poorly chosen, and the specimen carelessly taken may be worse than no biopsy at all. Neoplastic tissue is fragile, easily injured. The smaller the lesion the more care should be exercised in its manipulation. The site chosen should represent viable tumor tissue, not tissue altered by hemorrhage, necrosis and inflammation. The forceps should never be applied to the specimen to be examined. The coagulating current should never be used to obtain a small specimen since this device, though useful, literally cooks tissue beyond recognition. A small specimen should never be allowed to dry. It should be placed at once in formaldehyde solution and the surgeon should be solicitous of its fate until it arrives in the hands of the pathologist.

As a consultant in medicine, the pathologist should see the patient, as well as his lesion under the microscope. Candor, honesty and humility should become the pathologist of all the specialists in medicine. More than any other he should realize that cancer is not a one-man job. When confronted by a new situation he should be the first to admit that he does not know, and should be the first to seek the advice of his colleagues of larger experience in certain special fields of tumor diagnosis.

PROMISE OF BETTER PAIN RELIEF

The scourge of life, and death's extreme disgrace,
The smoke of hell,—that monster called Paine.

—Sir Philip Sidney.

Knowledge of the narcotic properties and medicinal usage of opium, the dried juice of the poppy, Papaver sominiferum, is of great antiquity. Hippocrates used the name opium (Gr.-juice) to designate a sedative drug; but it is not certain that what we know as opium was intended. Opium was not extensively used in European medicine until it was introduced about the year 1000 by the Arabian school. In 1670 the great Sydenham exclaims, "Without opium the healing art would cease to exist."

Morphine was isolated 140 years ago, all the important opium alkaloids by 1850. It is very unfortunate that opium contains so much more morphine than codeine—average 10 per cent morphine, 0.2 per cent. or less, codeine.

Looking over a list of the subjects of graduation theses of graduates of most of the medical colleges of the country over the decade 1850-1860 shows not a thesis on opium or morphine habituation. Many doctors-to-be wrote on delirium tremens. Apparently there was either little abuse of opium or its abuse was taken as a matter of course.

For at least 50 years has wide and deep search been made for a drug, with the pain-relieving qualities of morphine and without its injurious effects. Many and strong have been the claims of success, and considerable progress has been made. But we are far from the goal. Every report from reliable sources of encouraging results in this field demands the widest possible publicity within professional circles, and great care that there be no premature and sensational statements in lay publications.

Dr. Robert Hoffman, of South Bend, in the Journal of the Indiana State Medical Association for March makes the first report in a practitioner's journal, of clinical trials of demerol. He calls attention to the fact that although in the past two or three decades there has been great development of specific or near-specific treatment, symptomatic relief has lagged to such an extent as to cause many to seek relief at the hands of cultists.

It is conceded that the number of cases reported is too few to warrant dogmatism; but results in these cases strongly suggest that demerol relieves pain more effectively, safely and rapidly than any drug other than morphine, while being but mildly hypnotic, practically non-habit-forming, and having few contraindications and hazards.

It is believed that demerol diminishes pain by its effect on the parasympathetic endings and by its depressing effect on smooth-muscle fibers—the latter effect dominating.

For prolonged usage in cancer, especially where metastases brought about pain in different organs, the writer has employed it in four cases, over a period of four months. Three of these patients are satisfied with demerol alone, using but slightly increased dosage; the fourth requires morphine from time to time.

Mention is made that thousands of unpublished clinical trials among the cases now being investigated in medical schools lead to its advocacy for cystoscopic work and ureteral catheterization and irrigation. It is also advocated in obstetric delivery and, in fact, "for pain of almost any source or type. The colic pain probably responds best, but constant boring pains respond almost as favorably."

A small group of widely different pain types treated by Dr. Hoffman in the past five months:

· Six patients of the general arthritic group (arthritis, myositis, or neuritis might be debatable diagnoses in all of them), all or whom had been compelled to lose time from work again and again, have now remained at work regularly for three months. The average dosage was two tablets daily, by mouth, and 0.5 c.c. of demerol intramuscularly twice weekly. Salicylates were added after each had had a successful trial of three weeks on demerol alone.

Five with slipped intervertebral discs and sciatic neuralgia were able to resume work for two weeks, while arrangements were being made for surgical removal of the discs. The average dosage in these cases was 1.5 c.c. demerol by injection daily (given morning and evening) while at work.

In two cases of intense localized pain along the spine, not relieved by spinal fusions, such freedom from pain has been given for five months as to permit their regular employment. Pain previously unbearable was diminished enough to prepare each for additional surgical measures.

. Five patients having coronary scleroses, two of whom had experienced previous myocardial infarctions, were given 0.6 c.c. of demerol, intramuscularly, a half hour prior to dental extractions and drilling. None experienced enough pain during the dentistry to constitute shock. Dr. Hoffman doubts the wisdom of employing demerol for angina pectoris until much more clinical investigation has been made.

Three thoracenteses and seven spinal punctures were done without employment of local anesthesia. One patient, for reasons undetermined, experienced no analysis at all.

Root pains of two cases of tabes dorsalis were greatly relieved. A truck driver, unable to keep a steady job during the previous year due to unpredictable lightning pains, has, by reporting for injection as soon as the pain appears, enjoyed three months of continuous employment. On six different occasions he has been able to return to his truck within a half hour following the injection.

The need for getting patients back to their jobs quickly called for the rapidly effective injection method in most of the cases reported. Also, when the drug was taken by mouth atropine-like reactions and a feeling akin to epinephrine reactions were at times bothersome. It is quite possible that when taken more frequently these side effects may diminish.

When not more than 1 c.c. was injected daily in only 20 per cent of cases was increase of dosage required, even after three months of fairly constant use. When larger doses were necessary, phenobar-

bital largely nullified the side effects. The unpleasant side effects of the large doses are automatic deterrents to habit-forming. When demerol was substituted for morphine by a group of narcotic addicts at the United States Public Health Service Hospital of Lexington, Ky., an average of two days only was required to get over the desire for demerol, after four months of total dependence upon it.

On the basis of a very gratifying experience of the drug it is concluded that:

Demerol provides a new type of analgesic relatively harmless and slightly, if at all, habit-forming; its being only slightly hypnotic permits of ambulatory treatment without interruption of occupation; it relieves almost every type of pain; with careful management little increase of dosage is required in long-continued usage; there is only slight tendency to create desire leading to addiction.

It is promised that demerol will be available to physicians only—probably by prescription only.

TRI-STATE AFFAIRS

The Issue for March of the journal of the Tri-State Medical Association of the Carolinas and Virginia customarily is taken up largely with proceedings of the annual February meeting. This issue carries the address the president of the Association would have delivered viva voce had not the overwhelming majority vote decided it best to cancel the meeting set for 1943.

The President's Address breathes the enthusiasm and wise forward-looking which have characterized the Association since the leading physicians and surgeons of these three States founded the Association forty-five years ago.

In subsequent issues you will read other addresses and papers which would have been features of the program of the meeting.

Within the month Fellows will receive a list of the names of applicants to be voted on.

There is every evidence of enthusiasm among the Fellowship. Our past is one of high accomplishment, our present one of gratifying success and growth, our future full of promise that will assuredly be realized.

Our well-defined field of usefulness is being cultivated assiduously. While making his victory garden, every Fellow is reminded not to neglect his own corner of the Tri-State field.

CORRECTION—In Departments Urology is credited with Insurance Medicine's contribution.

WHAT IF I FEAR?

These stealthy, whispering fears that stalk my heart:

What difference do they make, so he be strong?

If Gallantry and Courage walk with him

My taut and listening anguish through the long

Dark night, with indrawn breath, is but my part

Of war, my battle to be fought and won

With close-sealed lips and feigned quietness

Lest I disturb the stout heart of my son.

-HENRIETTA RUNYON WINFREY
Richmond

NEWS

American College of Chest Physicians Cancels 1943 Meeting

A resolution adopted by its Board of Regents, the American College of Chest Physicians at their Mid-Winter Meeting February 14th, proposed that the 1943 annual session be cancelled and that, wherever feasible, State and District Chapters of the College arrange to meet jointly with their State and District Medical Societies and assist in preparing scientific programs concerning the specialty of Diseases of the Chest.

Dr. Karl Schäffle, Asheville, is the Regent of the American College of Chest Physicians for the Southeastern States.

WAR CONFERENCE May 24th-27th

Physicians, surgeons and hygienists seeing after 20 million workers will exchange experiences through the American Association of Industrial Physicians and Surgeons, the American Industrial Hygiene Association, and the National Conference of Governmental Hygienists—in a four-day War Conference at Rochester, New York, May 24th-27th.

Among the problems to be discussed from a practical

standpoint are:

The mass entry of women into industry

Older-age employees

Placement and employability of 4-F rejectees

Rehabilitation and employment of those discharged from the military service because of disabling conditions

Toxic and other hazards from new substances, new processes, and the use of substitute materials

Absenteeism, fatigue, nutrition

Advances in the treatment of illnesses and injuries

Dr. William A. Sawyer, Medical Director of Eastman Kodak, is General Chairman; Dr. James H. Sterner and Lieut.-Com. J. J. Bloomfield are arranging the program for the industrial hygienists.

Physicians and surgeons, hygienists, engineers, nurses, executives—all interested in the problems of industrial health and their solution—are invited to attend as many of the sessions as they can arrange for.

There is no registration fee.

CATAWBA VALLEY (N. C.) MEDICAL SOCIETY meeting, Lincolnton, on the evening of March 9th. Program:

Uses and Toxicity of Sulfonamides, by Dr. Yates Palmer, Valdese.

Peptic Ulcer, a film produced by the Lahey Clinic and distributed by John Wyeth & Company. (Incidentally, this is the best medical educational film I've ever seen.)

Crowell Hospital Staff presented three cases:

A. Orchidectomy for Prostate Cancer.

B. Subclavian-Vein Obstruction.

C. Sickle-cell Anemia, Benefited by Transfusions.

L .A. Crowell, Jr., Sec.

PARKE-DAVIS WINS ARMY-NAVY "E" FOR WAR PRODUCTION

On February 26th, 2,700 employees of Parke, Davis & Company received the Army-Navy "E" pennant for excellence in production of materials for saving lives. Brigadier General John M. Willis, commanding general at Camp Grant, Ill., presented the "E" pennant, which was received by Dr. A. W. Lescohier, president of the company. Lieu-

tenant E. B. Williams, senior medical officer of the Detroit Naval Armory, presented the insignia. John Tighe, representing the employees, accepted the insignia, an "E" pin which every employee is entitled to wear. Among the honored guests seated on the platform were Joseph Roberts, oldest man employee who began his service with the company in 1892, and Miss Lillian Paye, oldest woman employee whose service began in 1896.

Dr. A. Wylle Moore announces the opening of his office for the practice of Surgery and Gynecology, 1101 Liberty Life Building, Charlotte, N. C.

Dr. B. B. Bagby, Jr., is the new superintendent and medical director of Pine Camp, Richmond's tuberculosis sanatorium. Dr. Bagby, who has been serving as assistant medical director of the institution, will replace Dr. George A. Welchons, who resigned to enter private practice in Richmond. Dr. George S. Row, resident physician, stepped up to the position of assistant medical director of Pine Camp.

Dr. Bagby has been at Pine Camp since 1939, and was formerly a staff physician at Catawba Sanatorium. He graduated with the degree of B.S. from Randolph-Macon College in 1936, and earned his M.D. in 1938 at the Medical College of Virginia. Dr. Row also is a graduate of the Medical College of Virginia, class of '41.

Dr. Philip D. Wilson, Clinical Professor of Orthopedic Surgeon, of the International College of Surgeons, presi-Surgeons, will give the Stuart McGuire Lectures at the Medical College of Virginia February 25th and 26th.

He will speak on Treatment of War Injuries, Especially Compound Fractures; and on Amputations in War Time. Both addresses will be made in the Simon Baruch Auditorium of the Egyptian Building.

Dr. William Scott Weisiger, Richmond physician and long active in fraternal activities, was elected Grand Master of the Grand Lodge, Ancient Free and Accepted Masons of the Commonwealth of Virginia, at the closing session of its 165th annual communication at the Masonic Temple, Richmond. He succeeds Dr. Robert S. Barrett, retiring grand master from Alexandria.

DR. WM. THORNTON (b. West Indies, grad. Edinburgh, 1784), was the designer and architect of the National Capitol building.

Dr. Wingate M. Johnston, of Winston-Salem, N. C., addressed the Richmond Academy of Medicine, the even-ing of Tuesday, March 9th, on Dr. James Marion Sims—Medical Pioneer.

Dr. John G. Mebane, U. N. C. 1906, is resident physician at Boston City Hospital.

MARRIED

Miss Mary Walker Mitchell, daughter of Mrs. Edgar Louvette Mitchell, of Culpeper, Va., and Dr. Clinton Hughes Preble, of Evington, Va., were married in Culpeper Methodist Church February 5th.

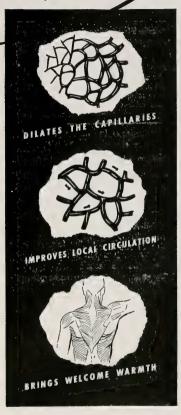
Dr. James W. Choate, Jr., of Salisbury, N. C., and Miss Margaret Imogene Thorn, of Hattiesburg, Miss., February 17th.

WHY IS IMADYL UNCTION SO EFFECTIVE IN

Relieving pain?

hrough the vasodilating action of histamine, the chief ingredient of Imadyl Unction 'Roche,' local circulation is promptly and effectively improved. This increase in blood flow improves local metabolism, and also produces a welcome sensation of warmth in the treated area. In addition, histamine has a definite analgesic effect through its direct action on sensory nerve terminations. Imadyl Unction also contains acetyl-glycol-salicylic ester 'Roche' which produces the wellknown, desirable "salicylate effect," and rubefacient ingredients which are paincombating. All of these are incorporated in a highly absorbable base providing an effective unction for the relief of arthritic, neuritic, and rheumatic pains. Supplied in 11/2-ounce tubes and 1-pound jars.





HOFFMANN-LA ROCHE, INC., NUTLEY, N. J. Roche

Dr. William Watkins Walton and Miss Lucile Loving Webb, Richmond, February 13th.

DIED

Dr. Preston Peters, 65, surgeon and authority on Confederate history, died January 20th at his home at Lynchburg, Va. He was regarded by philatelists as the owner of one of the world's finest collections of Confederate

Dr. Peters recovered more than a year ago from an attack of Rocky Mountain spotted fever. Physicians said that he was one of very few persons past 50 to get over

A son of Col. William E. Peters, for many years professor of Latin in the University of Virginia, Don Peters was brought up at that University and there he was graduated A.B., A.M., M.D. He practiced his profession in Baltimore before removing to Lynchburg in 1919 to open a hospital and engage in private practice.

Dr. Clifton Meredith Miller, 69, long widely known as a physician and in civic and social interests, died February 27th a this home at Richmond. Dr. Miller had been in ill health for several months.

For many years a teacher in the Medical College of Virginia and active in his specialty, a founder of Stuart Circle Hospital, a long-time member of the Richmond School Board, Dr. Miller was one of the most prominent of Richmond's physicians.

Dr. John Marshall Payne, 71, died at his home at Staunton, Va., of heart failure February 11th. Dr. Payne, a native of Orange County, educated at the University of Virginia and the Jefferson Medical College, settled at Staunton for the practice of medicine and surgery.

Dr. Payne was a Fellow of the American College of Sugeons, of the International College of Surgeons, president of the Norfolk & Western Railroad Surgical Associati on, 1930-34; former president (1940), Chesapeake & Ohio Railroad Association of Surgeons; past president, Augusta County Medical Association; first vice-president, Virginia Medical Society; former president, Valley of Virginia Medical Society.

Dr. Joshua Tayloe died suddenly at his home, Washington, North Carolina, aged 45, on March 4th.

Dr. Tayloe had been, since 1926, a member of the Staff of the Tayloe Hospital, established by his father, Dr. D. T. Tayloe, Sr., and his uncle, Dr. Joshua Tayloe, Sr. He was a past president of the North Carolina Urological Society, vice-president of the Seaboard Medical Society, member State, Tri-State and American Medical Associations.

Dr. Mosby Garland Perrow, Director of Public Welfare of Lynchburg. Va., died February 26th of apoplexy during a public hearing on a petition that the price of milk in the Lynchburg area be increased. Earlier in the day he had opposed the increase, asserting it would not be in the interest of public health. Dr. Perrow was one of the first public health officers in the South; and he was the first in the United States to demand tuberculin testing of all herds furnishing milk to his city.

Dr. Frank Lewis Sharpe, 75, died at his home at Statesville, N .C., on February 20th. A graduate in the class of 1904 of the Medical School of the University of North Carolina, he had engaged in the general practice of medicine for more than thirty-five years.

Dr. Edgar Miller Long, 56, a graduate in 1909 of the School of Medicine of the University of Maryland, died

15%, by volume Alcohol Each fl. oz. contains:

Sodium Salicvlate, U. S. P. Powder...........40 grains Sodium Bromide, U. S. P. Granular20 grains Caffeine, U. S. P.....

ANALGESIC, ANTIPYRETIC AND SEDATIVE.

Average Dosage

Two to four teaspoonfuls in one to three ounces of water as prescribed by the physician.

How Supplied

In Pints, Five Pints and Gallons to Physicians and Druggists.

Burwell & Dunn Company

Manufacturing Pharmacists
Established in 1887



CHARLOTTE, N. C.





IT'S EASY to understand why cigarettes are the preferred gift in the armed services. But did you know that among them the best-liked brand* of cigarette is Camel? Camel is the popular choice of millions and millions of smokers for its finer flavor and superior mildness.

Send Camels, the service man's favorite, to those friends or relatives who are fighting our battles—fighting them efficiently and unselfishly. Your thoughtfulness will be appreciated.

Tobacco stores feature Camels by the carton. See or telephone your dealer today.

Remember, you can still send Camels to Army personnel in the U.S., and to men in the Navy, Marines, or Coast Guard wherever they are. The Post Office rule against mailing packages applies only to those sent to the overseas Army.

* With men in the Army, the Navy, the Marine Corps, and the Coast Guard, the favorite cigarette is Camel. (Based on actual sales records in Post Exchanges and Canteens.)



in a hospital at Rocky Mount, North Carolina, on February 15th. He had practiced for many years at Hamilton.

Dr. Brutus Caesar Moore, 84-year-old retired Albemarle physician, died in the home of his daughter, February 22nd.

Dr. J. Richard Williams, retired physician, of Richmond, died February 18th at his home. Dr. Williams was for 15 years a member of the faculty of the Medical College of Virginia.

Dr. Fonso Butler Watkins, Superintendent of the State Hospital at Morganton, N. C., died after prolonged ill health, on March 8th,

University of Virginia

Dr. Eugene R. Kellerberger of New York, representing the American Mission to Lepers, showed motion pictures of An Agricultural Leper Colony in Africa and of African Sleeping Sickness on January 15th.

On January 20th, Dr. James A. Waddell spoke at the James River Medical Society meeting on Hemorrhages in

the Newborn.

A lecture on Continuous Caudal Anesthesia in Obstetrics was given by Dr. Waldo B. Edwards and Dr. Robert A. Hingson of the United States Public Health Service on February 8th.

SALVAGE AMPULE FILES

The two tons of steel have used each month in the manufacture of the ampule files having been directed to war production, the existing supply of these files must therefore last for the duration. This should not cause undue concern, however, for many files lying about unused in physicians' cabinets are in excellent condition and can be put to good use in the future.

Schering Corporation is requesting physicians to send in their excess supply of files to pharmacists and dealers in a special envelope being provided by the pharmaceutical manufacturer. Files returned to Schering Corporation will be tested and sorted. Those in good condition will be redistributed to physicians as the necessity arises; those which can no longer cut satisfactorily will be contributed to the national scrap metal salvage drive.

Announcement

Mrs. L. S. Yandell's Charlotte Nursing Home is now located at 325 North Church Street.

Scientist says our arms are getting shorter. Looks like the fishermen of the future will have to come closer to the truth.—Milwaukee *Post*.



OF INTEREST TO DOCTORS

THE NEW YORK RHEUMATISM ASSOCIATION, of which Dr. Russell L. Cecil is President, was recently formed and formally organized on January 22nd of this year. Its objects are to bring together physicians in New York City and vicinity who are interested in arthritis and rheumatic disorders, to improve the treatment of patients with arthritis, particularly those attending arthritis clinics in Greater New York, and to stimulate research in these disorders. Besides Dr. Cecil the other officers are Dr. Martin H. Dawson, Vice-President, and Dr. Edward F. Hartung, 580 Park Avenue, New York City, Secretary-Treasurer.

MR. HERBERT CANIS, in whose possession have come many rare books on medical and pharmaceutical books left him by his father, Professor Otto P. M. Canis, has opened this library to members of the medical and allied professions. A library room has been set aside in the Eimer and Amend Apothecary, 49 East 34th St., New York, where Mr. Canis is the General Manager. Doctors may come in at their own convenience and use the library for reference work or study.

A PRIZE of \$250.00 and a Gold Medal is being offered for the best essay on Anesthesia. This has been made possible by a Grant of Anglo-French Drug Companies of New York and Montreal, Canada. The Committee of Awards is Drs. Andre Crotti, Rudolf Nissen, Frederick M. Douglass, A. Mario Dogliotti. Essays should be sent to the International Executive Secretary, Dr. Max Thorek, 850 W. Irving Park Blvd., Chicago. They must be typewritten in English, in manuscript form, double spaced, and must not exceed 5,000 yords in length. The original must be accompanied by four carbon copies.

PAINLESS CHILDBIRTH TECHNIQUE. The Journal of the American Medical Association reports that Dr. Robert A. Hingson and Dr. Waldo B. Edwards of the Marine Hospital, Staten Island, N. Y., have evolved a new painless childbirth technique, "continuous caudal analgesia." A metycaine solution is injected near the base of the spine, eliminating pain without causing loss of consciousness or hindering muscular movements. The method, first tried Jan. 6th, 1942, has been used successfully in 589 cases, including the wives of both of its originators.

MIRACLES OF MILITARY MEDICINE, by Albert Q. Maisel and published by Duell, Sloan and Pearce, Inc., of New York City, is one of the latest books on this subject so vital to men of medicine. With the slogan, "Tens and hundreds of thousands of men, who would have died in any previous war, wont die in this war," the author brings home to the doctor as well as the reading public some of the outstanding events which have taken place in recent days directly attributable to military medicine. The chapter, "That Smelly Little Spanish Doctor," concerning the surgeon Jose Trueta and his work on the battlefield and in Barcelona during the Franco war is very enlightening. The fortunate appearance of Dr. John Moorehead and his "Secret Weapon" on the morning of Sunday, December 9th, 1942, in Hawaii, now a medical fact, presents a chapter which certainly gives us an experience that is more than a coincidence. "The Japs Got the Quinine " and how we beat them to it with the use of atabrine makes good reading. This book has been prepared with the advice, analysis and criticism of medical men both in civilian practice and in the armed service.

THE THEATRICAL WORLD

"DARK EYES"

A comedy in two acts and four scenes by Elena Miramover in collaboration with Eugenie Leontovich; settings by Stewart Chaney; staged and produced by Jed Harris at The Belasco Theatre, New York City. An immediate hit.

This comedy was written by the two Russian-born actresses named above. They also act the parts superbly with a third member of the "Dark Eyes" trio, Ludmila Torotzka. The story concerns these three Russian-born women who are living in America as refugees. Being unversed in American ways, they have written a play and also a check. The play being unsold and the check having no funds, they find themselves evicted and homeless.

With the help of Prince Nicolai, another refugee, they obtained an invitation to the Long Island home of the capitalist, Mr. Fields. When Mr. Fields arrives to enjoy the peace of his own fireside, after a particularly harrassing run-around in Washington, and finds his home filled with mad Russians, there follow some of the funniest scenes ever seen.

Every one in the cast turns in a splendid performance.
"THE PATRIOTS"

A drama by Sidney Kingsley, directed by Shepard Traube and presented by The Playwrights Company and Rowland Stebbins at the National Theatre. The material for this play by Mr. Kingsley (who is now in the army) was taken from a decade in American History, a decade in the life of Thomas Jefferson concerning the struggle between Jefferson and Hamilton, both patriots with exactly opposite ideas on how to run the country.

The play is produced with the excellence that its theme deserves. Raymond Edward Johnson plays Jefferson, House Jameson and Cecil Humphreys play Hamilton and Washington and all have been acclaimed by the critics for dignified and stirring portrayals.

Mr. Kingsley brings out in the historical events the fact that democracy has never been held without a struggle. Even in the beginning it was necessary to fight to retain democracy.

"SOMETHING FOR THE BOYS"

A muscal at the Alvin Theatre, New York City, presented by Michael Todd, book by Herbert and Dorothy Fields, settings by Howard Bay, costumes by Billy Livingston, songs by the one and only Cole Porter, staged by the opulent Hassard Short and starring Ethel Merman, which adds up to the season's liveliest musical.

Featured in the cast are Paula Lawrence, Allen Jenkins, Bill Johnson, William Lynn and Betty Bruce. There is a prologue and two acts with scenes running all the way from Kansas City to Sixth Avenue, New York, to a defense plant in Newarw, then off to San Antonio, Texas, crossroads, Cadet Club and even an Army Plane. The Cole Porter songs and Ethel Merman to sing them are already becoming tremendously popular.



BOOKS

CONSTITUTION AND DISEASE: Applied Constitutional Pathology, by JULIUS BAUER, M.D., Professor of Clinical Medicine, College of Medical Evangelists, Los Angeles; formerly Professor of Medicine, University of Vienna, Grune & Stratton, New York. 1942, \$3.50.

The book is made up largely of lectures given by the author at the University of Vienna 1923-1938. Causes of individual variability of disease; constitutional factors in etiology, clinical picture and treatment; signs of constitutional deviation—all these as applying to different organs and tissues are well gone into.

A book of considerable interest and profit.

MANUAL OF DERMATOLOGY: Issued under the Auspices of the Committee on Medicine of the Division of Medical Sciences of the National Research Council, by DONALD M. PILLSBURY, M.D.; MARION B. SULZBERGER, M.D.; and CLARENCE S. LIVINGOOD, M.D. W. B. Saunders Company, Philadelphia and London. 1942. \$2.00.

In no other subject is a reliable textbook, not too voluminous, needed, than in dermatology. The general practitioner needs a book from which he can learn, on authority, how to diagnose and best treat the vast majority of skin diseases. And he needs to know on authority, and have the confidence of such knowledge, that, although in a great many cases treatment at his hands will be long, it will be just as long at the hands of the dermatologist. Here is the book to meet these needs.

MILITARY SURGICAL MANUALS VOL. V—BURNS, SHOCK, WOUND HEALING AND VASCULAR INJURIES: Prepared under the Auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. 272 pages with 82 illustrations. W. B. Saunders Company, Philadelphia and London. 1943. \$2.50.

There has been tremendous improvement in recent years in our management of the conditions dealt with in this volume. From the number of different means of treating burns reliably reported it is evident that there are many good methods. This volume's section on burns will clear up much confusion.

In the treatment of shock all of us were taught that external heat is a prime essential. This volume still advises the use of heat, and most of us will continue to use it, despite the Editorial in the issue for February 6th of the *Journal of the A. M. A.* against the use of warmth in the treatment of shock.

The sections on wound-healing and vascular injuries bring us all the lessons taught by the experiences of our Allies.

FIRST AID: Surgical and Medical, by WARREN H. COLE, M.D., F.A.C.S., Professor and Head of the Department of

Surgery, University of Illinois College of Medicine; and Charles B. Puestow, B.S., M.S., M.D., Ph.D., F.A.C.S., Associate Professor of Surgery, University of Illinois College of Medicine and Graduate School. Illustrations by Carl Linden in collaboration with Tom Jones of the Illustration Studios of the University of Illinois College of Medicine, Chicago. D. Appleton-Century Co., Inc., New York and London. 1942.

This book is written because of needs consequent on the great increase in the use of machinery as well as the war. The greater part deals with surgical emergencies, but there are included a great many which may best be called medical.

This is our advanced guide well worthy of use as a textbook by medical students and graduates.

NASAL MEDICATION: A Practical Guide, by NOAH D. FABRICANT, M.D., M.S., Associate in Laryngology, Rhinology and Otology, University of Illinois, College of Medicine. *The Williams and Wilkins Company*, Baltimore. 1942, \$2.50.

The gross and minute anatomy and the physiology of the parts are reviewed. There are chapters on the effect of drugs on ciliary action and nasal pH, and on the membrane; methods of applying nasal medication; nasal medication in disease, nasal medication in childhood.

A reliable, conservative guide for doctors as to what may be hoped for from nasal medication.

THE PRINCIPLES AND PRACTICE OF OBSTET-RICS, by JOSEPH B. DELEE, A.M., M.D., Formerly Professor of Obstetrics and Gynecology, Emeritus, University of Chicago; and J. P. Greenhill, B.S., M.D., Professor of Gynecology, Cook County Graduate School of Medicine. Eighth Edition, Entirely Reset. 1101 pages with 1074 illustrations on 841 figures, 209 of them in colors. W. B. Saunders Company, Philadelphia and London, 1943. \$10.00.

Part I deals with the physiology of reproduction, pregnancy, labor and the puerperium. It gives instruction in the conduct of pregnancy, labor and the puerperium, and has a section on obstetric and gynecologic endocrinology.

Part II covers the pathology of pregnancy, labor and the puerperium, and concludes with a section on operative obstetrics.

For thirty years DeLee's Obstetrics has held an authoritative place in teaching in this field the world over.

The author of this edition was chosen for the task by Dr. DeLee, and the result demonstrates the wisdom of the choice. Advances have been given ample space and this edition, as did all former editions, represents the best and most complete in obstetric teaching.

CLINICAL DIAGNOSIS by Laboratory Methods, by James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado School of Medicine; and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The

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Mayo Foundation), Head of Division on Clinical Laboratories, Mayo Clinic. Tenth Edition, Thoroughly Revised. 911 pages with 380 illustrations, 32 in colors. W. B. Saunders Company, Philadelphia and London, 1943. \$6.00.

For more than a third of a century *Todd* has been a strong and popular diagnostic prop. Each edition has been of highest rank. Beginning with the sixth edition it became *Todd-Sanjord*. This new edition retains descriptions of the valuable old and adds the valuable new, with great discrimination.

A thousand pages of dependable helps in solving our diagnostic problems.

FRACTURES, by PAUL B. MAGNUSON, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School. Fourth edition revised; 317 illustrations. J. B. Lippincott Company, Philadelphia, Montreal, London. 1942, \$5.50.

The general practitioner has always had the first care of the great majority of fractures, and the entire care of perhaps a majority. He has in recent years lacked and yearned for an authoritative work telling him, not what may be done, but what should be done. In this day of law-suits on every pretense and overweening faith in specialists, the family doctor needs definite, written opinion from a teacher of surgery, as a backstand against probable suit.

This book provides just what the G. P. needs in this field—the best information on how to so handle fracture case as to get best results, on the authority of an authority.

UNUSUAL BOOKS

MEDICAL LABORATORY TECHNIC-Feder,

\$5.00

A unique guide in laboratory diagnosis

BACTERIOLOGY LABORATORY METHODS

King \$2.50

Textbook of essentials for students of medicine and nursing

Sent on Approval

CHARLOTTE MEDICAL PRESS Charlotte, N. C.

THE MYTH OF POSTOPERATIVE PNEUMONIA

(J. R. Buchbinder, Chicago, in Ill. Mcd. Il., Jan.)
From the Division of Surgery, Northwestern University Medical School and the Department of Surgery of Passavant Memorial Hospital, Chicago.

Symptoms and signs indicating pulmonary consolidation are frequently present following operations upon the abdomen, especially such surgical procedures as involve the gastro-intestinal tract. Under such conditions, upon the clinician rests the responsibility of excluding a spreading peritonitis as a direct cause of the pneumonia.

It is only 20 years or so since we began to recognize the frequency of postoperative pulmonary collapse, which, prior to that period, was considered to be aspiration pneumonia.

Among the various complications responsible for morbidity and mortality following abdominal operations spreading peritonitis still takes first place. Occurring as it does following procedures of major severity, it is less easily diagnosed in the invasion period than when it occurs by extension from such inflammatory foci as appendicitis, perforation and the like.

One patient may develop a fatal diffuse peritonitis following what would appear to be a clean cholecystectomy, while another will show but little reaction to gross soiling from an accidentally ruptured abscess.

The nature of the reaction of clean or uninflamed serous membrane in the immediate vicinity of a suppurative process is a familiar phenomenon. In experimental animals and in man practically every serious or fatal diffuse peritoriits will produce a varying extent of pulmonary consolidation.

If the peritoneal situation is not serious, it is not likely that pneumonia will be the cause of death.

When signs of pneumonia and a stormy course appear in the first 72 hours after operative work upon the gastrointestinal tract, it will be safer and usually more accurate to assume that spreading peritonitis and not pneumonia is the major complication.

A CASE OF GENERALIZED PRURITUS of the skin due to carcinoma of the stomach and cured by gastrectomy in a man 89 years of age is reported. "Idiopathic" and "senile" pruritus in a certain (unknown) percentage of cases may be a manifestation of silent visceral carcinoma.—JI. Dig.

Taxi, Taxi, cruising car, How I wonder where you are! When I need you, past you whir, Carrying one lone passenger!

When I hail you, worn and tired, I will always find you "hired"; When I shriek a desperate "Hey!", Drivers look the other way.

When into the bus I climb, You'll pass, empty, every time! Can't I track you to your lair? Are you ever lurking there?

If to run you do not choose, Tell me, Taxi, must you cruise? How I wonder where you are, Taxi, Taxi, cruising car!

-Amy Greif, in Waverly Press.

[&]quot;I see they're using alcohol to make tires now instead of whiskey."

[&]quot;Yes, the effect has changed from reeling to rolling."

CHUCKLES

The intern had a call from a doctor four miles away that he was sending a woman in for an immediate appendectomy. He notified the operating room and called the surgeons. After two hours, the patient arrived. "I knew that I wouldn't be able to eat much for a few days," she offered brightly, "so I stopped in a restaurant and had a good dinner."

Tourist: "Don't stand there like a fool, man. Run and bring the doctor."

Small town dweller: "Sorry, Mister, that's him you've just run over."

A psychologist asks, "What would you do if you knew you had only three months to live?" "We'd worry ourselves to death over it in less than a week."

Conductor of radio quiz program: "Tell me, sir, who was wiser than Solomon, handsomer than Don Juan, braver than Napoleon, and more honest than Washing-

Little doctor (with a sigh): "My wife's first husband."

"Don't be downhearted," said the steward to the suffering passenger. "Nobody ever died of seasickness."

"Don't say that," moaned the stricken one. "It's only the hope of dying that's kept me alive so far."

On the left was seated a corpulent lady with full face, shrill voice, and laboured respiration. The lady on the right was lean, slender, dried-up; on entering the omnibus she had coughed; after taking her seat she held her handkerchief to her mouth and changed colour when the one opposite, wheezing, called out for "Air, air!" exclaiming she would fairly be smothered if the window were to remain closed. "But I," objected the other, "would get my death of cold if the window were opened." The conductor for some time stood undecided. Then came this piece of advice from one of the passengers: "Open the window," said he, in a deep voice, "and then one of them will die; then close it, and the other will die, and so at last we shall have peace."

Quart. Med. Jl. (Eng.), 1898.

A Few from the Sanatorium Sun-

Officials of the income tax division received the following acknowledgment of a blank sent to a Sanatorium emplovee:

"Dear Treasury: I received your application blank. But 1 already belong to several good orders and do not care to join your income tax at this time."

Just in from a 20-mile march. Officer of a Negro company: "All too tired to make another march two paces

All stepped forward except one husky six-footer. Officer: "Well, Johnson, ready for 20 miles more?"

Johnson: "No, sah. Ah'm too tired to even take dem two steps."

"Our new patient looks worried today. What's wrong with him?"

"Oh, he's been contesting his wife's will."

"His wife's will? I didn't know she was dead."

"She isn't."

There is a story about a man on relief so accustomed after years of unemployment to having everything done for him that he went out and married a widow with 8 children.

The conclusion of an account of a meeting of the N. C. Psychiatric Assn. came from the linotype like this-"the meeting was concluded with a collection at the home of Dr. Crispell on the West Duke campus."

"What is that on your face?"

"A birthmark."

"Why, that doesn't look like a birthmark!"

"But it is. I entered the wrong berth by mistake."

"Waiter, these oysters are very small."

"Yes, sir."

"And they don't appear to be very fresh."

"Then it's lucky they're small, ain't it, sir?"

She: "Sir, do you realize to whom you are speaking? I am the daughter of an English peer."

He: "That's O. K., sister. I'm the son of an American doc."

The mistress of the house heard the bell ring and saw standing at the open front door a Chinese hawker. Quickly retreating, she called to the maid:

"There's a Chinaman at the door. You go, Ella."

"You go 'ella yourself!" shouted the Oriental from the doorway.

"I understand," said a young woman to another, "that at your church you are having such small congregations. Is that so?"

"Yes," answered the other girl, "so small that every time the rector says 'Dearly Beloved,' you feel as if you had received a proposal."

The landlady brought in a plateful of extremely thin slices of bread and butter, which rather dismayed her laungry men boarders.

"Did you cut these, Mrs. Brown?" asked one.

"Yes, I cut them," came the stern reply.

"Oh," said the boarder, "all right, I'll deal!"

A logger who was, alcoholically speaking, somewhat oversubscribed, was making his way homeward through a dense patch of brush. Suddenly he heard a rattle at his feet, and beheld a rattlesnake coiled and ready to strike. The logger drew himself up with dignified solemnity and eyed the reptile with lofty contempt.

"Go ahead an' strike," he said, scornfully. "Never will ye find me better prepared."

Dr. Hubert Royster sends this-

Pig Laugh vs. Horse Laugh

When I was a boy, I used to visit at my uncle's farm. They had a big swill barrel near the pig pen, in which they poured milk, threw apples, and dumped bran or middlings, and then we would go out and pour the mixture into the trough. I used to look at the pigs with their big mouths and big teeth and the way they laughed at me. It took me several years to learn they were laughing. Then I realized they were getting all the vitamins and mineral salts, while the farmers were standing around with false teeth in their mouths .- W. S. Cornell.

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JAMES M. NORTHINGTON, M. D., Editor

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No. 4

Rupture of the Urethra and Its Management*

FURMAN ANGEL, M.D., Franklin, North Carolina Angel Clinic

FEW TRAUMATIC lesions can be more rapidly difficult of management, even fatal, than rupture of the urethra. When once urine has extravasated through the tissues with the resulting gangrene and infection of soft structures, the condition is grave indeed. When this does occur, unless death soon supervenes, the period of hospitalization may be very long.

Among the writings attributed to Hippocrates may be found mention of urethral abscess, and it is to be presumed that he knew and was concerned with the dangers of urinary extravasation.

Urethral dilators have been found which must have been made and used before the dawn of the Christian era. Ambroise Paré and John Hunter treated urethral strictures with silver nitrate.

The impression I retain of the teaching given me in medical college and hospital is that no great importance was attached to rupture of the urethra and the resultant extravasation of urine. Anyhow, no clear impression was retained of imminent danger in such a case, as was true of a violence to the head or abdomen. My own practice has given me a quite different concept.

It occurred to me long ago that, if urinary extravasation could be prevented, rupture of the urethra should not, within itself, be such a fatal lesion. The one sure way of preventing extravasation of urine, provided the patient is brought in early, should be realized by doing a cystotomy. In all recent cases, this has been a routine procedure. Just so soon as a diagnosis of ruptured urethra has been established, in every case we have performed

an immediate cystotomy. In no single instance where we have carried out a cystotomy has there been the slightest evidence of urinary extravasation, or of the symptoms which commonly follow this accident. Furthermore, all such cases have gone on to rapid recovery.

The sole purpose of this paper is to urge the performance of a cystotomy in every case the minute such a case comes under our care.

In the many-volume Reference Book of the Medical Sciences published in 1889 and edited by Buck of New York, bare mention is made of urethral rupture.

von Bergmann's System of Practical Surgery (1904) does for index urethral rupture. Rupture is dealt with very briefly—a half-page—casually and inconclusively.

Robert W. Taylor's 750-page Treatise on Genito-Urinary Diseases (1904) considers urethral rupture not worthy of place in the index. Under the head, Extravasation of Urine, there is a page or so on rupture of the urethra, and we are told that "in the rather rare event of extravasation into the prevesical space it will be necessary to make a free suprapubic incision . . . in order to irrigate the parts thoroughly and frequently and drain them."

Ashurst's Surgical Principles & Practice (1920) would not lead one to regard rupture of the urethra with-grave concern.

Ruptures of the urethra occur at the bulbomenbranous juncture, we are told; and in most cases urinary extravasation occurs after 24 hours. If un-

^{*}Prepared for presentation to the 1943 meeting of the Tri-State Medical Association

relieved, extensive sloughing results, especially if the urine was previously unhealthy; constitutional symptoms of sepsis are frequent, and death may ensue from this cause. Treatment consists first in guarded attempts to enter the bladder with a soft catheter. If this succeeds, as it may very soon after the injury, before urinary extravasation has occurred, the catheter should be left in the bladder for four or five days, while urinary antiseptics are administered. If extravasation of urine is already present when the patient is seen, the urethra should be opened, immediately, in the perineum, with the aid of a sound passed down to the site of rupture.

No mention of the urgent need for immediate measures in order to prevent fatal result. No mention of suprapubic drainage.

An article in the British Journal of Surgery, 1936-7, by Simpson-Smith, describes eight cases of his own, with no death; and reviews 381 recorded cases, result not stated. This article summarizes: The diagnosis is nearly always easy and can be obtained from the history of an adequate accident and from the simple physical signs. Passing a catheter is an unreliable means. The physical signs are shock, pain, bleeding from the penis, perineal haematoma, ecchymosis, and abnormality of micturition. Stricture-formation is more common and serious after traumatic ruptures than after any other type. A ruptured urethra is as much an emergency as a ruptured peptic ulcer. Treatment is urged as soon as possible after the accident, and is directed against fouling of the raw area by urine, haphazard catheterization and perineal contamination. Suprapubic deviation is submitted as essential in all ruptures, partial or complete, except the rupture be in the penile shaft.

Cooper¹ begins a paper thus: "Ruptwee of the bladder and urethra is an important subject on account of the high mortality of these injuries and their increasing frequency."

Foster² says a rupture in the deep urethra is a calamity; the best time to begin treatment is before the next urination would ordinarily occur; the gravest hazard always demands first attention. Application of different principles he makes in three phases: Immediate, or drainage phase; intermediate, or control of infection phase; ultimate, or repair phase, with recovery of physiologic micturition.

Drainage is required of the bladder and all extravasating areas. This is neatly and quickly accomplished by carrying a Guiteras staff down through a suprapublic opening, into the bladder neck and out through the bulbous urethra. An incision is made over the point of the staff where

it appears in the perineum, a catheter is attached and drawn backwards into the bladder where it may be fixed in the location desired by means of a linen suture. A medium-size Pezzer catheter is then put into the bladder through the suprapubic opening, and the wound closed after leaving a tissue drain in the space of Retzius.

Three years ago Carlson³ quoted Hamilton Bailey as saying of urethral rupture, "We are dealing with a very grave and desperately urgent accident where simplicity of technique is of paramount importance." Carlson says this accident is more common than current textbooks indicate, and that treatment consists of immediate (1) suprapubic cystotomy with retrograde catheterization; (2) perineal section for end-to-end anastomosis of urethra, and suture of puboprostatic ligaments (if torn) and adequate drainage; and (3) treatment of shock and hemorrhage by fluids by vein and blood transfusions.

Sweetser,4 discussing only rupture of the posterior urethra where it passes from the prostate into the triangular ligament, says that injury of the urethra in itself is a serious injury and demands prompt and accurate diagnosis and adequate treatment. Occasionally the urethra is only partially-severed and may be treated simply by drainage with an inlying catheter. A very serious injury is complete rupture of the urethra with a displacement of the prostate and bladder upward away from the triangular ligament and with a hematoma in the intravening space. The bladder is not usually ruptured and the patient has not voided urine into the hematoma. He comes to the hospital usually in severe shock with a fracture of the pelvis and sometimes with a head injury.

Drainage of the perivesical tissue is imperative and any attempt to put the patient in the lithotomy position for perineal incision would risk further severe damage from the broken pelvic bones and would not solve the problem of drainage and repair. A suprapubic cystotomy with evacuation of the perivesical hematoma is essential; the patient's condition may be so poor that no further initial treatment is justified. If anything further can be done without too much risk, the torn ends of the urethra should be brought together as well as posible.

Townsend⁵ has in the past four years treated 10 patients for traumatic rupture of the bladder and wrethra, resulting from severe crushing injury in the region of the pelvis or perineum. Only one occurred while the patient was under the influence of alcohol. No cases are included which resulted from

^{1.} Cooper, Stewart, Urologic & Cutancous Review, 1936 2. Foster, M. H., Nove Orleans M. & S. Il., Nov., 1936.

^{3.} Carlson, W. J., in Am. Il. of Surgery, 1940. 4. Sweetser, T. H., in Trans. Minneapolis Surgical Sec., 1940. 5. Townsend, J. M., in Il. Med. Assn. State of Ala., Dec.,

infections associated with urethral stricture or periurethral abscess.

Any patient who has suffered even a moderate injury in the region of the pelvis should receive prompt attention. Any sign of blood at the external urethral meatus demands further investigation. The patient should be catheterized immediately to determine the patency of the urethra. If the catheter meets an obstruction before entering the bladder which seems to increase the bleeding from the meatus, it is safe to assume that the urethra has been completely or partially severed, and the case demands immediate surgical treatment. If the catheter passes readily into the bladder and grossly bloody urine is obtained, it can safely be deduced that some degree of trauma of the bladder has occurred.

Institute immediate open drainage in any case in which the catheter specimen of urine is grossly bloody, or when attempted catheterization meets obstruction in the posterior half of the urethra and aggravates the bleeding. Our low mortality of 10 per cent we believe to be due to open drainage even in borderline cases without waiting to see whether any evidence of sepsis or extravasation will develop.

Suprapubic cystotomy is the primary procedure to be carried out in all cases.

Morson⁶ discussed the subject before the Section of Urology of the Royal Society of Medicine of England in 1941. He regards rupture of the urethra as the most serious of all injuries to the genitourinary tract, not on account of the immediate mortality rate, which, per se, is negligible, but because of subsequent ill-health. He knows of no case where the urethra has been completely torn across, in which the patient has been restored to perfect health. He objects that many of the older textbooks teach that the patient must be told to hold his water. There is no need for this instruction. Micturition if at all possible will have taken place before the arrival of the doctor. Further, on no account should a catheter be passed for diagnostic purposes. Damage to the mucous membrane is thereby increased, the very thing which must be avoided. The more the tissues are torn the greater will be the formation of scar tissue. If there be any doubt at all as to whether the urethra is completely ruptured the urethroscope is the only instrument which should be used. Incomplete rupture need not confine the patient to bed for more than a few days provided the pelvis is not fractured. Haematuria never persists for longer than a day or so. Instrumentation is entirely contraindicated. Should a large haematoma form in the perinum it may be necessary to make a small incision over the swelling and remove the blood clot. Most patients can be discharged within a week of

the accident. Subsequently, urethroscopy is needed every six months to study the formation of scar tissue. At the end of a year it will be possible to determine by this method of investigation the degree of stricture formation, and how often dilatation will be required.

In case of complete laceration of the urethra, as soon after the accident as possible the urine must be diverted by a self-retaining angular tube of any of the well-known patterns inserted suprapubically into the bladder by the trocar-and-cannula technique, with a minimum of dissection, and under the influence of a spinal anaesthetic, or gas and oxygen, or pentothal.

Reynolds, of Bluefield, W. Va., describes? "A New Treatment of Traumatic Rupture of the Posterior Urethra."

He agrees that successful treatment must be without delay and must reëstablish adequate urinary flow, reëstablish normal alignment and contour of the injured urethra, and prevent undue elongation of the posterior urethra by promptly removing extravasated blood and urine and by adequate drainage. His method of treatment was used in 29 such cases during the years 1929-1941:

If the patient is in shock, this is attended to first. Using surgical precautions, an attempt is made to catheterize the urethra, using a No. 18 Foley catheter. If successful, the end of the catheter is placed well within the bladder and the balloon is distended to 5 c.c. This is left in position connected with rubber tubing to a bottle at the bedside and acts as an indwelling catheter. A hematoma in the perineum should be drained. A sulfonamide is given for four or five days, certainly if there is any elevation of temperature. Usually convalescence is uneventful. Use the indwelling catheter over a period of three weeks, changing it at weekly intervals. Usually complete epithelization and healing have taken place by this time and no ill results follow its removal. The patent may be able to void after one week if instructed to do so, but as healing is not complete, he should not be allowed this privilege. If the catheter is removed too early and the patient allowed to void, the act becomes more difficult or impossible, as the urine, which has become infected, seeps through the unhealed rupture, producing a cellulitis. Fever develops and later suppuration which usually is manifested by swelling in the groins, requiring surgical drainage.

In the treatment of complete rupture, if the catheter does not pass into the bladder but buckles up in the macerated prevesical space, there is usually the escape of bloody material through the catheter, an indication that the rupture is com-

^{6.} Morson, Clifford, Proceedings Royal Society of Medicine Eng., Feb., 1942. 7. Reynolds, C. J., in Southern Medical Journal, Sept., 1942.

plete. With local anesthesia, a suprapubic midline incision is made and if there is reason to believe that there is a possible rupture within the peritoneal cavity, this should be opened and explored. If no rupture is evident, the peritoneum is closed and a suprapubic cystotomy and exploration are done. Debris should be removed with gentle sponging. It is not always easy to find the separated ends of the urethra. A No. 18 Foley catheter is passed into the penile urethra. If both ends of the torn urethra cannot be easily located, a catheter is passed within the cystotomy opening and through the prostatic urethra, a thread is passed through the eyes of both catheters and tied loosely. Then by traction the Foley catheter is drawn through the prostatic urethra into the bladder, and the balloon is distended with water and the suprapubic catheter guide removed. Tension is placed on the indwelling catheter and by this means the base of the bladder is brought down and the severed ends of the urethra are thus brought accurately together. Bleeding is controlled by thus obliterating the prevesical space and by proper drains. Urethral repair otherwise is unnecessary. It is unnecessary . to use a suprapubic catheter for bladder drainage. The suprapubic incision is closed with interrupted sutures. The indwelling catheter is removed, cleaned and replaced at the end of seven days. This is also repeated on the 14th day and removed permanently on the 21st day. The suprapubic drains are usually removed on the third or fourth . day.

A robust young man was catheterized by his family physician for the relief of a bladder distension due to stricture, and the metal catheter punctured the urethra. The resulting urinary extravasation started a series of infections which kept the man in the hospital six months, and required twenty-six trips to the operating room. He recovered and is now entirely well.

Another case in mind: A young man was brought into the hospital with a history of having ruptured his urethra while mounting a motorcycle. Urine rapidly extravasated through the tissues, with a resulting gangrene, and death ensued in twelve hours.

A young man in the employ of the U. S. Forest Service was brought to the hospital by his superior with a history that, while riding on a truck, he fell over the rear gate and landed on his perineum, striking a sharp rock. He had the usual immediate symptoms of great pain, blood loss; with desire for frequent urination but inability to pass even a small amount of urine.

When he entered the hospital there was a steady stream of blood from the meatus, with a tumefaction in the perineum. An attempt at catheteriza-

tion failed. The patient was immediately removed to the operating room and a cystotomy performed. The bladder was filled with blood. The blood was evacuated, and a tube inserted into the bladder. For the next ten days, his course was smooth, with practically no fever, and a normal pulse. On the tenth postoperative day the patient was operated upon for restitution of the urethra.

An incision was made down to the urethra and under direct vision a catheter was passed by the ruptured point on into the bladder. The urethra was restored around the catheter by interrupted sutures. Again the operative picture was calm, with little change in temperature and pulse. The perineal wound healed without urinary leakage. On the twenty-first postoperative day, the urethral catheter was removed, and five days later the cystotomy tube came out. On the thirteenth postoperative day, the patient voided spontaneously. The cystotomy wound leaked for a few weeks, but eventually it closed and all functions are now normal.

In cases of ruptured urethra brought into the hospital late, and where the urine has already extravasated through the fascial planes, cystotomy should be done. Any attempts at catheterization in these cases is always very dangerous. If urinary pressure is not relieved from above, the urine may pass further and further through the tissues, with the development of multiple sinuses.

- 1. Rupture of the urethra is a serious lesion.
- Life and long periods of hospitalization can be saved by an early cystotomy.

PREVENTION OF TETANUS AT BUILDING OF WORLD'S FAIR
STRUCTURES
(Victor News)

Dr. Robert C. Thackeray of Racine, Wis., writes that he "knows of a method apparently effective, simple and proven which deserves widespread adoption." His letter follows:

"The late Dr. Charles Lemon, once Chief Surgeon of the Milwaukee Electric Railway, told me that during the building of the World's Fair structures in Chicago in the early 1890's, some 3,000 nail puncture wounds were treated by this method and not a single case of lock-jaw developed. Tetanus antitoxin had not come into general use at that early date.

"If a nail puncture wound is seen early, a loop of silk-worm gut can be inserted the full depth of the wound without traumatization of healthy tissue or pain. Left for three or four days, the loop prevents immediate healing, provides lymph drainage and permits air to enter the wound. We need not be reminded that the tetanus bacillus is anairobic and the drain provides conditions unsuited for rowth.

"The excess of protruding silkworm gut is easily folded back upon the skin and held in place with small strips of adhesive.

"I have used this procedure many years, in many cases, without the development of a case of lockjaw."

General Practice in New York More Than Fifty Years Ago*

HENRY MANN SILVER, M.D., New York City

IN 1876 the City of New York was virtually on Manhattan Island. The population was 1,041,-866, made up of native-born Americans, Irish, some Germans and Italians. The great wave of immigration from Central Europe and Russia had not taken place. Most of the inhabitants lived below 59th Street. The Americans were scattered well over the city; the Irish on the extreme East and West sides of the city along the water fronts. Many of the Irish, Germans and Italians lived in tenement houses.

The Board of Health allowed crowded front and rear tenement houses to exist with dark, damp rooms never receiving a ray of sunshine, veritable breeding places of disease. More important, they allowed small grocery stores and butcher shops to display food without protection from swarms of flies and clouds of dust. The milk was kept cool in summer with ice from infected lakes and rivers in the upper part of the state, placed inside the cans.

The streets, mostly paved with cobblestones, were swept with machine or hand brooms. The dirt was collected in piles and frequently allowed to remain for days for the wind to scatter. In those days it was dirt mostly. There was no knowledge of the billions of disease-producing germs it contained.

In many sections of the city there was a liquor saloon on each of the four corners, with beer saloons in the middle of the block where mechanics and laborers spent much of their weekly wages, thus depriving their families of the necessities of life.

On the first of October, 1876, I left Bellevue Hospital and, with the background mentioned above, opened an office at 10 East Third Street in a thickly-settled section of the city. Here I had to wait twelve years before receiving a hospital visiting appointment. As the service at Bellevue Hospital was purely surgical, I was poorly prepared to enter general practice. I soon gained a large experience in diseases of the heart and lungs in the Eastern Dispensary; in obstetrics from a connection with the Marion Street Lying-in Hospital, and in miscellaneous diseases by caring for the poor of Grace Church. In the dispensary, large numbers of young men and women in the early stages of consumption were seen; also large numbers of functional diseases of the heart due to indigestion

were met with in young women. These were easily relieved by regulating the diet and the use of R. & S. mixture combined with tr. nux vomica. After several years in the dispensary I was appointed visiting physician to a large section of the dispensary district in the East Side of the city. I now visited the patients in their homes. Here I had the opportunity to see and study cases of pneumonia. advanced cases of heart and kidney diseases, and consumption in advanced stages. These were interesting, as this disease caused the largest number of deaths. Most of the cases were found in front and rear tenement houses. Most of the patients were untidy, and slovenly habits combined with poverty made them easy victims of the disease. No care was taken of the sputum; it was expectorated on bare floors, carpets, rugs and even on the side walls, and left to dry. The members of the family were constantly breathing the dust of dried sputum loaded with tubercle bacilli. No wonder at that time consumption was considered to be an inherited disease. I have seen many whole families-father, mother and several children-die one after another until all members of the family were dead. Some blocks in the lower East Side had so many cases residing there, that they were called "lung blocks." As yet we did not know the real causes of disease.

Suddenly, like the appearance of a brilliant meteor in the sky, Koch in 1884 announced he had discovered the cause of consumption, the tubercle bacillus. Those living today can hardly realize the excitement and enthusiasm which the discovery caused, not only in the medical profession, but also with the general public. Hundreds of medical men went to Koch's clinic to study the greatest discovery of the age. In 1884 Dr. Herman M. Biggs went to Germany to study this branch of medicine. Returning in 1885 he took charge of the Carnegie Laboratory and gave instruction in tuberculosis. It is difficult to understand why it took the Board of Health so long to put the knowledge gained by the discovery of the cause of this disease into practical use in stamping out the disease. It was not until 1893, nine years after Koch's discovery, that Dr. Biggs, who was then connected with the Board of Health, pointed out that the disease was communicable and preventable. In 1894 the Board of Health adopted the policy of sputum examination,

report and registration, compulsory for institutions. In 1897 they required the report of private cases by physicians. This met with great opposition. The Academy of Medicine and the County Medical Society opposed it. The county society even went to Albany and requested the legislature to pass a bill ordering the Board of Health to rescind the order. The order was not rescinded.

Another disease that gave the Board of Health much anxiety was cholera infantum, a disease of summer months, receiving its name from some of the symptoms resembling cholera. It was much more common in tenement houses occupied by the poor. In three months-July, August and September, 1875-there were 2,735 deaths from diarrheal diseases; mostly cholera infantum. During the very hot weather children would die by hundreds each day. In the very acute cases, a child plump and healthy in the morning would be nothing but skin and bones in the evening. The disease was also known as acute milk poisoning. In spite of the many thousands of dollars the Board of Health was spending on a summer corps of doctors whose duty it was to visit tenement houses and hunt out sick children, the swarms of flies and clouds of dust and germ-laden milk were killing children by the thousands. The great defect in this movement was that it was directed towards treating sick children. and not primarily towards the prevention of the disease. For three summers, Dr. Janeway appointed me a member of the summer corps and I had a good opportunity to study the defects of the plan.

It was not until the late 1880's that the Board of Health began the efficient regulation of the supply and distribution of milk and protection of food from flies and dust. In 1892 Nathan Strauss not only began to pasteurize milk, but also to establish infant milk stations where mothers could obtain milk specially modified for babies and delivered the milk ready for feeding. By this means he was instrumental in saving the lives of thousands of children and cholera infantum was wiped off the list of children's diseases.

I know of nothing that would terrify the parents of a child more than to be aroused at night by the barking cough of croup, a disease which caused 758 deaths in New York in 1875. To witness a child slowly dying of suffocation was a terrible experience even to physicians. Tracheotomy saved a few lives, but on account of hemorrhage and swollen tissues of the neck it was a very difficult operation. In 1880 Dr. Joseph O'Dwyer, of New York, began to intubate cases of croup at the Foundling Asylum. In 1885 he began to publish his results. This treatment removed all terrors from this disease and when Klebs in 1883 discovered the true cause of diphtheria it was found that croup was a

manifestation of diphtheria. Croup is no longer mentioned as a distinct disease.

In 1876 the Board of Health took notice of the large number of deaths from diphtheria—in 1875, 2,329 with a population of a little over 1,000,000; in 1930 (9 months) 170 with a population of a little over 7,000,000.

All children over 6 months should be immunized. Doctors of the present day have little idea of the dreadful cases of diphtheria the doctors of the older generation were called in to treat. No one who has ever seen an acute severe case will forget it—a child struggling for breath, eyes staring, face and neck swollen, a bloody discharge from nose, mouth open, tonsils swollen and entire throat looking as if painted with tar.

Although Klebs discovered the bacillus of diphtheria in 1883, ten years had passed before the Board of Health began to adopt measures to efficiently control the disease. In 1893 Dr. Park began its diagnosis by culture methods. He established 40 stations, mostly in drug stores, where physicians could obtain without charge tubes of the culture medium with sterile swabs for inoculating the medium, also directions for use.

In 1894 Behring brought out antitoxin. Early in September, 1894, Dr. Park began the preparation of diphtheria antitoxin in the City of New York. At this time between 35 and 40 horses were used for this purpose. Early in 1894 Dr. Williams, Dr. Park's associate, isolated the new culture, a strain of the diphtheria bacillus from a case of mild tonsillar diphtheria, without passing it through animals, and it was found to produce the strongest diphtheria toxin known.

In January, 1895, the first antitoxin produced in the laboratories of the Board of Health was used in two cases in the Willard Parker Hospital; and the conquest of diphtheria, begun with these two cases, was brought in 1936 nearly to the point of extinction of the disease.

Dr. Joseph E. Winters, one of the most prominent clinicians of the period, led a vigorous opposition to the new method. He claimed that its use was productive of imminent danger to life. This caused the profession as a whole to hesitate to use it. A vigorous debate between Dr. Winters and Dr. J. W. Brannan before the Academy of Medicine resulted in an overwhelming vote in favor of antitoxin treatment, but it was a long time before Dr. Winters gave in and acknowledged the treatment useful.

The confinement cases I took care of for the Marion Street Lying-in Hospital were among the very poor, mostly living in front or rear basements in tenement houses. Midwives looked after the German women. The rooms were dark, dirty and

damp. In some cases it was difficult to find a clean towel to wipe our hands on after delivery. When I could do no better, I used instruments which had simply been washed with soap and and hot water after the last instrumental delivery. I would administer chloroform, two women would assist while the child was delivered with forceps. The doctors' hands were not washed before labor began. Vaginal examinations were infrequent, but great care was taken to see the uterus was firmly contracted after delivery. This was done by compression with the hand and use of Squibb's extract of ergot. Not one of the cases cared for in these insanitary surroundings gave me the slightest anxiety. No complications arose, no rise of temperature, and convalescence was rapid. Was this due to great powers of resistance, weak germs, or no germs? Or was it due to prolonged use of whiskey?

Unfortunately the picture changed. Before the causes of disease were known, I was called to see a patient who lived in a fine house, plenty of money and servants, everything clean and pleasing to look at. The child was born before I reached the house, placenta was difficult to deliver, compression by the Credé method; no vaginal examination made, placenta rotated on delivery to form a cord of membrane. Patient appeared to be in good condition immediately after delivery. Temperature began to rise on second day and death took place from puerperal fever a few days later. Prof. Wm. T. Lusk saw the case with me in consultation several times, but nothing could be done. It is interesting that a few days ago in the Academy of Medicine the centenary of the publication by Dr. Oliver Wendell Holmes of his paper on "The Contagiousness of Puerperal Fever" was celebrated.

On the first day of July, 1888, I sailed for Europe. When I returned late in December I brought with me a Tarnier axis-traction forceps. The night of the day I reached New York I was called to Gouverneur Hospital to see a woman in her fourth confinement. Three of the children had been born dead on delivery, the pelvis being contracted. I applied the Tarnier forceps and delivered a living child. Two years later I again delivered the woman of a living child in her own home and with the same forceps.

There were many cases of diseases of the heart, with entirely different symptoms from the coronary thrombosis symptoms of the present day, with sudden death. These symptoms, a weak and irregular pulse, dyspnea and general edema, formed a chronic valvular disease which caused much suffering and finally ended in death. These symptoms were caused by a shrinkage of the cusps of the valves of the heart, due to the endocarditis. The mitral valve being the most frequently involved, a

murmur is the outstanding sign of the disease. More than fifty years ago, the removal of the tonsils was stressed. The instrumental removal then was an insult to injury as only a portion was removed, the raw surface of the portion remaining was soon covered with a thick layer of scar tissue which closed the crypts and prevented the escape of infection. This was absorbed and finally reached the endocardium. It is only where the entire tonsil is removed that the above-mentioned chronic valvular disease is prevented or relieved when present. At present the clean removal of the tonsils has not only reduced the number of the chronic valvular cases but has caused suppuration of the glands of the neck to disappear.

It may be of interest to know something of the fees received in the early days of my practice. This does not include the Fifth Avenue or Murray Hill sections of the city. Office fees, \$1.00; outside calls within city limits, \$2.00; obstetric cases, \$10.00-\$25.00. Lost most money in unpaid fees in \$10.00 cases. These may seem ridiculously low fees, but the purchasing power of the dollar was much greater then than now. I paid \$30.00 a month for my first office, one room; later for a parlor floor, basement and extension, \$45.00. Table board in one of the finest boarding houses in the city, three meals a day, was \$7.00 a week. Coal (anthracite) was \$5.50 a ton; coachman's wages, \$45.00 a month; stable bill for horse and carriage, \$55.00 a month.

Dr. E. G. Janeway's office consultation fee was \$15,00; for outside call, \$25.00.

In 1887 the Society of the Alumni of Bellevue Hospital opened its doors, and, for 12 years before this, I was gathering the experience to have the pleasure of telling you, its members, that from the days of unwashed hands and no knowledge of the cause of disease, the bright lights of discovery opened up the beginning of the wonderful advancement of the present day.

What will the future be?

—130 East 39th Street

OBSERVATIONS ON DIABETES MELLITUS

(W. H. Olmstead, St. Louis, in Il. Iowa State Med. Soc., Mar.)

We believe that if the diabetic patient receives a diet which fulfills the requirements for calories, minerals and vitamins, if the urine is kept sugar-free, and if the obese diabetic patient is reduced, we will prevent the premature development of arteriosclerosis, and that such patients will live as long as anyone else. Our experience with forms of protamine zinc insulin which contain less protamine leads us to believe they are better adapted to the treatment of the disease than the forms of protamine zinc insulin now in use. Simple methods, making use of the measuring cup found in every kitchen, result in better control of the diet than the use of the metric system, in spite of the undoubted accuracy of the latter method.

The Doctor of Medicine and His Responsibility*

ALFRED W. ADSON, M.D., Rochester, Minnesota

MEMBERS of the North Central Medical Con-ference, representing the states of North Dakota, South Dakota, Minnesota, Wisconsin, Nebraska and Iowa, have entrusted me with the responsibility of addressing this National Conference on Medical Service concerning medical problems that are of both local and national interest.

It is the duty of every doctor of medicine to prevent illness, to supply adequate medical care to those who are ill, to perpetuate the science of medicine and to encourage medical investigation. It is true that the average physician would prefer to go unregimented among his sick and administer to their needs, irrespective of race, color, creed or financial status, rather than busy himself with administrative and political problems. However, since the courts have ruled that group health is a business and have found that medical societies are guilty of restraining trade when attempting to maintain the standards of the practice of medicine, a challenge has been issued to the medical profession: Is there a necessity for lay groups and the Federal Government to take over the control of the practice of medicine.

Has the science of medicine reached its zenith? Have the men and women of medicine become so decadent that they are unable to assume their responsibilities? Are the doctors of medicine no longer able to conduct their practice without government control? Do they lack ability to appreciate their problems? Or are they incapable of constructive leadership in the solution of the numerous responsibilities that are confronting the medical profession today? The reply is, No.

The science of medicine has been nurtured by men and women who have advanced the knowledge of relieving pain, correcting deformities, lowering infant mortality, prolonging life and preventing illness by sanitary and public health measures. This progress must continue if civilization is to survive.

The medical profession is conscious of social and economic changes and stands ready to coöperate with, and offer leadership to, state and federal agencies in the solution of medical problems. It further believes that better medical service can be rendered by offering advice and leadership to welfare agencies than by serving as a tool under political bureaus.

The medical profession recognizes the necessity for state and federal control of communicable diseases and medical services to inmates of state and federal institutions. It appreciates its responsibility to the armed forces and expects to supply the needed personnel. It is willing to cooperate with welfare agencies in providing adequate medical care for the low-income and indigent groups of the population; but in providing this care, it believes that the medical service is augmented when the patient-physician relationship can be maintained by permitting the patient, whenever possible, to choose his own physician. In order to protect the public from worthless, so-called medical procedures and unnecessary operations by unscrupulous individuals, it likewise believes that high standards of medical education and practice must be maintained. This applies not only to the practice of medicine in the office; it applies to the practice of medicine in the humble home or in the most modern hospital.

Although medical education begins in the medical school, it is never completed as long as the physician continues his practice. Medical schools have adopted standards of education and have required certain courses of study in order that the public might avail itself of the best practices of medicine. Medical licensing boards have further protected the public by requiring of their candidates for licensure prescribed courses of study. State laws governing the practice of medicine and conduct of physicians further protect the public from irregular practices and charlatans.

Medical societies, county, state and national, have been organized to further the education of the physician by acquainting him with the advances and new discoveries in the science of medicine. They likewise serve as administrative units in the consideration and solution of medical problems. It is obvious that the responsibilities of the respective state organizations are greater than those of the county organizations, and that the national organization is charged with greater responsibilities than those of the state organizations. However, it is also obvious that the activities of

^{*}Read at the meeting of the National Conference on Medical Service, at Chicago, February 14th, 1943.

The National Conference on Medical Service writes:

It is sent to you herewith because all of the state medical journals represented there asked for it for publication and it occurred to us that other associations and journals not represented there much like to make use of it also.

Surface Medicane & Surgery gladly complies.—Editor.

all groups must be integrated if medical problems are to be solved effectively. In some states, such as Minnesota, the administrative and the legislative bodies have the confidence of the medical profession. Likewise the medical profession has the confidence of the state administrative and legislative bodies. This confidence has made it possible for representatives of both groups to attack and solve the medical problems which are of mutual interest.

The national organization, through its respective bodies and committees, has conducted an excellent program in furthering medical education. It has crystallized the standards of medical education for the medical student as well as for the practitioner of medicine; it has investigated the claims of new and nonofficial remedies, foods and therapeutic measures and has further protected the public by approval or disapproval of the articles investigated. It has taken active steps through its Procurement and Assignment Committee in providing medical men for the armed forces without robbing communities of adequate medical personnel and has made provisions for relocation of physicians where more medical service is needed. It has acquainted the public with the important role that the science of medicine plays in their daily lives, but apparently it has not gained the confidence of the national administrative and legislative bodies that some of the state medical societies have attained. The National Physicians' Committee has made some progress in acquainting the public with the necessity of medical science, but it too had not obtained the confidence of the national administrative and legislative branches of our Government. Therefore, the recent court decision has emphasized the weakness of the educational program so far conducted for the purpose of acquainting the public, the administration and legislative bodies of certain states, and the national institutions, with the important function of the science of medicine in our civilization. It is our duty, as physicians and citizens, to assure those in administrative positions and legislative bodies that we are familiar with the social and economic changes that have thrown greater responsibilities on the medical profession and that we stand ready to cooperate with these agencies in offering leadership in the solution of the numerous problems which nonmedical personnel are trying to solve.

The chief medical problem that concerns doctors of medicine and welfare agencies is that of providing adequate medical care to those who are financially unable to procure this care. This group includes those who are indigent and those with low incomes. Medical care, in its true sense, embraces more than emergency treatment for a particular illness, since it should include a rehabilitation program, such as the correction of deformities and

ailments that impair the efficiency of individuals. The rehabilitation program also should include adequate and proper diets, physical training, recreation, protective clothing and housing. In most of the cities the indigent are provided with proper medical care through the charity hospitals, where competent physicians give of their services. This same group in the rural districts is not always so fortunate, since local welfare boards are reluctant to provide this care. It is in these situations that the physicians have been overburdened in assuming all of the responsibilities in providing the necessary medical care. Prior to the more recent economic changes, physicians were willing to assume this obligation because those who could afford to pay for professional services attempted to meet their obligations. However, as a result of the recent social and economic changes, the Government has taken over more and more control of the civilian's activities, and those with moderate and low incomes have been less willing to assume their obligations of medical care and are insisting that it is the Government's duty to provide medical care and that it is the individual's privilege to squander his extra change.

The problems of this group cannot be solved by physicians alone or by federal, state and local welfare agencies alone. Ours is a joint responsibility. Conscientious leadership by physicians working with county, state and federal agencies can and will bring forth a solution of the problem. Medical service must be rendered, and the physician is willing to give a good portion of his services. But the Government must provide reasonable funds for the care of its indigent, as it must provide for catastrophic illness in the low-income group. Nevertheless, those who come within the low-income group should likewise be made to realize that they too owe a responsibility to their local, state and federal governments and should be encouraged and advised in budgeting their income and expense.

Industrial compensation has accomplished much in providing proper medical care and the necessities of life, during illness, for those employed in industrial institutions. However, there still remain a large group of individuals who receive moderate or low incomes and are desirous of securing the assurance of adequate medical service in the event of illness. Insurance companies have offered this protection through policies covering accident and illness disabilities; but again this protection only partially solves the problem, since many an insuree expects more for his premium than the insurer is able to give. In several states medical societies have attempted to develop medical-service plans whereby the insuree may purchase from the doctors within the group full medical protection or medical protection for unexpected, serious illnesses.

In some states under the farm security program, experimental medical service plans are being tested out by use in an attempt to find the solution of the problem of supplying medical care to the farmers and their families who are being rehabilitated. In some instances physicians are hired to render medical service to indigent and coöperative groups. Even though physicians, welfare agencies and low-income groups are struggling with the problems of medical-service plans, as yet a satisfactory plan for all classes has not been developed. The recipients expect more than the vendors can supply for the premiums paid.

These controveries give rise to discussions on the necessity of compulsory medical insurance. Should such a program evolve, results would be disappointing from the patient's as well as the physician's points of view if placed under the control of political bureaus, and the patient would be deprived of his free choice of physician.

Therefore, we as physicians believe that a more equitable solution of the perplexing medical problems referred to will be reached if we are permitted to consult and advise administrative officials, legislative bodies and welfare agencies, since we are more familiar with the medical needs of our respective communities than are those who have a casual knowledge of the medical necessities.

It is befitting to quote the statement found in the opinion written by Justice Miller, of the United States Court of Appeals, of the District of Columbia, in the case of the United States of America versus the American Medical Association, and the case of the United States of America versus the Medical Society of the District of Columbia. The italics are mine.

"It may be regrettable that Congress chose to take over in the Sherman Act the common law concept of trade, at least to the extent of including therein the practice of medicine. Developments which have taken place during recent decades in the building up of standards of professional education and licensure, together with self-imposed standards of discipline and professional ethics, have, in the belief of many persons, resulted in substantial differences between professional practices and the generally accepted methods of trade and business. As we pointed out in our earlier decision, the American Medical Association and other local medical associations have undoubtedly made a profound contribution to this development. However, our task is not to legislate or declare policy in such matters, but rather, to interpret and apply standards and policies which have been declared by the legislature. That Congress did use the common law test there is no doubt. That Congress was not otherwise advised was perhaps because of the failure of the professional groups to insist upon the distinction and to secure its legislative recognition."

Does the medical profession of this country need a stronger invitation, or a more direct challenge to take an intelligent, helpful and fair stand in the enactment of legislation that not only concerns the public welfare but the welfare of medicine itself? Does not the medical profession of this country, as citizens and taxpayers, have a right to express its opinion in these matters before legislation is enacted and rules and regulations adopted by some bureau? I do not share the opinion that the time for the medical profession to speak up is after such things have taken place. Neither do I have the opinion that Congress would be resentful of intelligent, courageous and fair advice on such matters. What better proof can be asked than the quotation from Justice Miller's opinion that the Court is not responsible for the absence of advice from the medical profession when Congress is drafting a law.

gress is drafting a law.

It is not the purpose of this paper to criticize the efforts of our national medical organization nor to criticize the efforts of the National Physicians' Committee; but it is the desire of the members of the North Central Medical Conference to express a wish that a more active program be conducted to acquaint the public, government officials and legislative bodies with the necessity of medical science and the important role it plays in our civilization. It is essential that we as physicians dispel the fear that government administrative agencies and legislative bodies have of our medical organizations and that they be assured of our coöperation in solving the social and economic problems that confront us as a nation.

The functions of acquainting the public on matters of medical interest, assisting bureaus in formulating plans on medical care and offering constructive advice on proposed medical legislation rightfully belong to the national organization known as the American Medical Association. They could be assigned to the National Physicians' Committee, or they might even be undertaken by unifying the activities of the various state committees on public policy and legislation. A representative committee could be appointed for each of the component societies, county, state and national. These could all be so integrated that national opinion and advice could be obtained and made available for committee hearings on legislation within a few hours' time. Through the national, state and county committees the entire profession could be informed of proposed medical legislation. Thus, the local constituents of the respective state and federal legislators could express their views before legislation is enacted. Some states already have medical advisory committees, one from each county. They also

have state medical committees on public policy with a physician as part-time executive chairman assisted by legal counsel. A national committee constructed on the same plan as these state committees would have to be created. A physician who has practiced medicine should be chosen as the executive chairman. Both he and his legal counsel would need to be stationed in our national capital. The expense of the national committee on public policy could be financed by one of three agencies, the American Medical Association, the National Physicians' Committee, or the respective state organizations bearing the expense jointly. It would appear more equitable if each physician would be assessed each year for the specific purpose of maintaining a national committee on public policy and legislation.

Our problems are not unlike those of dentists and hospital associations. Therefore, unified effort of medical, dental and hospital associations should further the welfare of the patient.

PERNICIOUS ANEMIA—SPONTANEOUS 15-YEAR REMISSION

(A. L. Jenks, Jr., Des Moines, in Jl. Iowa State Med. Soc., March)

Before the advent of liver therapy of pernicious anemia in 1926, the average resulting in death, often within a few weeks and practically always within one year, remissions were common.

A white laborer, 70 years of age, seen January 12, 1941, because of paleness. Diagnosis was made on physical and laboratory findings (typical) of pernicious anemia in relange

When the patient was informed of the diagnosis and the treatment necessary, he stated to the incredulous examiner that he had been diagnosed as having pernicious anemia in 1923 in the outpatient department of the Indianapolis City Hospital, admitted to the Indianapodis hospital in 1925 for treatment for pernicious anemia, and that he was in Jefferson Hospital in Philadelphia in 1926 with the same diagnosis. He began to improve in 1926, from that time until the present had received no treatment for his anemia, had felt well, and had been able to work as a laborer. These hospitals furnished detailed reports. He had been admitted to the Indianapolis City Hospital on October 24th, 1925, and had been discharged December 17th, 1925. He had the typical findings of primary pernicious anemia. His r.b.c. on discharge was 1,890,000; the w.b.c. 2,700, and the hgb. 3.9%. The blood Wassermann was negative and, after having been treated by transfusion and arsenic, he was discharged unimproved. The report from Jefferson Hospital was essentially the same, stating the patient had been admitted and discharged in October,

This, then, is a true case of pernicious anemia, first diagnosed in 1923 and underwent a spontaneous remission (without liver therapy) in 1926, which was maintained until January, 1941, when relapse occurred. A remission was then induced with liver therapy and it has been maintained until the present date. The duration of the disease to the time of relapse is 18 years, with a remission of 15 years.

FUNCTIONAL DIGESTIVE DISEASE AS SEEN AT LAWSON GENERAL HOSPITAL

(D. T. Chamberlin, in Il. Med. Assn. Ga., Feb.)

Called duodenitis for the purpose of this discussion are upper-abdominal symptoms without demonstrable x-ray lesions or hyperchlorhydria and without bowel symptoms, which might also be called chronic post-alcoholic indigestion. "Gastritis" is reserved for those cases where actual gastritis is seen by gastroscopy or by x-ray.

Routinely these patients receive a röntgen examination of their entire gastrointestinal tract, a gallbladder visualization, proctoscopy, gastroscopy, neuropsychiatric consultation, gastric analysis, blood count, blood chemistry, stool examinations and other laboratory and special examinations which we consider may enlighten. Occasionally a spectacular improvement in a patient with digestive symptoms is brought about by proper treatment of a chronic upper-respiratory condition or by the use of proper dentures.

Thirty per cent of the patients admitted to the Gastrointestinal Section at this hospital August 1st, 1941-July 31st, 1942, had no demonstrable organic disease of their digestive tracts.

These patients were sub-divided into five groups: irritable colon, duodenitis, constitutional inadequacy, mental deficiency, psychoneurosis.

In all cases the fundamental treatment is rest for the patient and his alimentary tract: bed rest, bland, low-residue diet, antispasmodics, heat to the abdomen and sedation when necessary.

Thirty-two out of 50 patients with simple irritable colon; 11 out of 25 with duodenitis; 6 of 33 constitutionally inadequate; and 4 of 11 with mental deficiency were returned to duty. No psychoneurotics were capable of remaining in the service.

The patient was considered cured and capable of returning to duty if he could tolerate the general mess diet for a week or more without recurrence of symptoms.

CLINICAL EVALUATION OF AGENTS USED IN MENOPAUSAL DISORDERS

(H. W. Eisfelder, in Jour. of Clinical Endocrinology, Nov., 1942)

A series of more than 200 menopausal women, in four groups of equal size, was subjected to treatment with estrone parenterally; estradiol benzoate parenterally; and with diethylstilbestrol, some of which was given orally, some parenterally; the fourth group received ovarian extracts, sedatives and a male hormone preparation. By rotating patients to various groups of treatment it was attempted to evaluate therapeutic potencies and the cost of treatment.

Side-effects such as gastro-intestinal phenomena were observed in 22 per cent of the group receiving dietheylstil-bestrol. While the cost of this estrogen, not native to the body, is low, the toxic reactions it elicits call for caution in its use. Estrone and estradiol benzoate were well tolerated. When symptoms require more constant supervision, and by-effects are to be avoided, or if there is lack of cooperation on the part of the patient, parenteral is preferable to oral therapy.

Results observed in the study lead to the conclusion that beta-estradiol benzoate is the estrogen of choice. Injections can be spaced conveniently because of the protracted action of the esterified compound and its cost is far lower than that of some estrogenic substances.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

AVITAMINOSIS IN SURGICAL PATIENTS

Many surgical patients, even in the unusually well-to-do class, suffer from avitaminosis due to a faulty diet, usually a one-sided diet.

Most of these patients are in apparently good physical condition with the exception of the condition which brought them to the hospital, such as an old pelvic tear or displacement of the uterus, requiring surgical attention.

If a careful history is taken, the patient will probably state that for several years there has been a feeling that there was something mildly wrongfatigue in the afternoons, inability to sleep well at night, slight indigestion, perhaps constipation. Often the patient states that after a fairly good night's sleep there remains a feeling of being tired on rising in the morning. The appetite may be a little under par. The patient is able to work regularly but starts out in the morning handicapped by feeling that the day's work will be a burden instead of a pleasure. Numerous other symptoms may present themselves. All in all, this is Nature's way of reminding the patient that there is something wrong and that something should be done about it.

A careful check on the patient's diet will usually enable one to estimate the probable vitamins that are lacking.

By putting the patient on the proper treatment, including iron and the appropriate vitamins, a great deal of improvement will be noticed. Sometimes several weeks pass before the patient realizes that the condition is improved greatly and that the body functions again in perfect health. Careful planning and persistent treatment will often work wonders.

It is necessary to explain very carefully to each patient just what to expect and what not to expect and in this way obtain best coöperation from the patient.

One thing that we must not forget in administering vitamin B_1 is that when given hypodermically it does far more good than when given orally. The other vitamins seem to be well absorbed from the alimentary tract and taken care of by the body generally.

It is true that vitamins are sometimes given indiscriminately and when not needed, but there are many patients suffering from a mild to a moderate anemia and avitaminosis. That this condition interferes with a patient's recovery and with the healing of the tissue there can be no doubt. There are many cases of mild subnormality of health—a state of chronic fatigue and a feeling that the day's work ahead will be too heavy—due to avitaminosis.

Every thoughtful doctor who studies his patients carefully knows that good advice as to diet and medical treatment, including iron and appropriate vitamins, until the diet is sufficient to take care of the situation, will often do much toward bringing his patient to an exuberancy of health in which he does the day's work with little or no fatigue. to awaken in the morning in that condition so well described by "He rejoiceth as a strong man to run a race."

MEDIASTINAL INFECTIONS

Some obscure chest conditions may be traced to an infection in the mediastinum. Infections may occur in this area, either through lymphatic channels or, more directly, after injuries to the esophagus or any other injuries that may cause damage to mediastinal structures.

The mediastinum, the space between the right and left pleural surfaces in the median portion of the chest bounded anteriorly by the sternum and posteriorly by the vertebral column, contains all the thoracic viscera except the lungs.

A careful review of the anatomy and physiology of this area shows why an infection in this area may quickly produce serious results. Also, unless one is on the alert for infection in this area it might easily be overlooked.

Infections of the mediastinum may occur following trauma to the esophagus either by instrumentation or by foreign body. Upper-respiratory infections, infections of the lungs or pleura generally, or blood-stream infections, may be the source of suppurative or non-suppurative mediastinal disease conditions. These may remain localized or extension may take place. If there is pus formation extension is very likely to occur.

In the diagnosis of mediastinitis here a more than ordinarily careful history, and physical, x-ray and laboratory investigation are required in many cases. It is important that an immediate and accurate diagnosis be made, and this depends to a great extent upon the radiographic examination. The location and extent of the mediastinal involvement is of the most vital importance

A differential diagnosis of mediastinal infection may sometimes be complicated by empyema or pneumonia which may be coincident with the mediastinal infection. We must, also, be on the lookout for mediastinal tumors or neoplasms.

There are a number of complications that may occur during acute mediastinitis such as an involvement of the esophagus or the trachea in an infectious process—acute pericarditis. The large

blood vessels in the mediastinum may be involved and a thrombophlebitis of the superior vena cava or some of the other veins in this region may occur. The thymus gland lying in this area can also be involved, also either lung by extension from the mediastinum.

Immediate surgical treatment is indicated in certain types of cases and the differential diagnosis between these and the non-operative cases is of vital importance. Where there has been trauma of the esophagus this should be dealt with without a minte's delay. An abscess demands prompt and skillful drainage, usually through the base of the neck. Local anesthesia usually suffices.

Non-operative cases require measures to prevent the spread of infection. For example, a small stomach tube may be passed through the esophagus into the stomach and through this the patient can be fed, thus preventing the spread of infection through food passing through a perforation made in the wall of the esophagus. Blood transfusions and sulfadrugs are of great help. Oxygen is to be used when necessary.

IMPACTED FECAL MATTER IN THE RECTUM

Especially to the aged, impaction of fecal matter in the rectum may be very distressing.

Large quantities of feces collected in the rectum and becoming hardened through adsorption of fluid cause symptoms which are commonly ascribed to other causes. They can cause severe pain and distress of various kinds, especially pain in the rectal region and backache. Preëxisting rectal lesions such as hemorrhoids may be greatly aggravated by this condition, especially when it is passed. Various abdominal and gastric disturbances as well as other conditions may occur secondarily to this condition.

The administration of mineral oil once or twice daily for two or three days, then oil enemas are to be given, these followed after a proper interval by copious irrigation, then gentle instrumentation if necessary, offer ready means of removing the impaction without pain.

Following relief from this condition, the patient should be put on a regular anticonstipation diet and general treatment to prevent a recurrence of this trouble.

CLINIC Conducted by

Frederick R. Taylor, B.S., M.D., F.A.C P., High Point, N. C.

A 39-YR.-OLD MANUFACTURER complained of an eruption on Aug. 28th, 1920. There was very little itching, and no constitutional symptoms were present. There were pinkish oval patches, with occa-

sional rings, all over the trunk—less on the arms, little on the forearms, none on the face and hands. One ring had a yellowish center. There were extremely fine scales over the lesions. The patient had been taking bromides, but this eruption in no way suggested a bromide rash. As there were no constitutional symptoms and no itching of significance, no treatment was given, and the eruption cleared up within a few days. There was no involvement of the mucous membranes, and no adenopathy.

THE 23-YR.-OLD WIFE of a worker in mouldings in a lumber plant complained on March 8th, 1938, of an eruption. Three weeks previously she noted a single lesion on her left forearm. Two weeks after that a general eruption appeared, except that the face, hands and legs below the knees were unaffected. There was very little itching. The eruption was a pinkish macular one, the macules being often oval in shape. No other findings were noted. An antipruritic lotion was prescribed, the prescription to be filled only if itching became distressing. An absolutely good prognosis was given. It was suggested to the patient that if she wished to take a few ultraviolet radiation treatments, this might hasten recovery; but as recovery was practically certain within a few weeks, as the face would not become involved, and as itching was insignificant. she preferred to let nature take its course and get well without treatment.

Both of these are cases of pityriasis rosea. The first had to be diagnosed by inspection alone. The second gave the very significant history, elicitable in only half the cases, of a "primitive plaque" appearing a couple of weeks before the general eruption. This plaque is often on the trunk near the waist-line, but in this patient it appeared on a forearm, a rather unusual location. The disease is essentially benign and recovery is made in two to three weeks as a rule. Only rarely is the itching disturbing. The one serious error that must be avoided is that of considering this benign evanescent eruption to be a syphiloderm. The individual lesions may suggest macular syphiloderms; but freedom of the face and hands from involvement; absence of mucous patches, adenopathy or constitutional symptoms, and, when present, the history of a "primitive plaque" exclude syphilis as the cause. Of course the serologic tests are negative in pityriasis, but in most instances clinical observation should be sufficient to make the diagnosis. In doubtful cases, one of the serologic tests for syphilis should be employed.

DEPARTMENTS

HUMAN BEHAVIOUP

JAMES K. HALL, M.D., Editor, Richmond, Va.

DISREMEMBERED?

MEDICAL DEPARTMENT OF THE ARMY: is the caption of the editorial in The Journal of the American Medical Association of March 6th, 1943, in which the ranking personnel and those other facilities of the War Department are catalogued that are being made use of in caring for the health of the soldiers of the United States at their stations almost all over the world. The title of Doctor of most of the mentioned individuals has been replaced by military titles of various gradations. I often wonder if the medical man becomes as quickly attuned to his military title as a bride to her new name and is as proud of it. In the two dozen names recorded in the editorial, not quite all names of physicians, I recognized the names of surgeons and internists and pediatricians and pathologists and epidemiologists and public health physicians and bacteriologists and dermatologists and specialists in nutrition, but I must have overlooked a syphilographer or two and a urologist.

The author of the editorial in his tribute to the preventive potency of the epidemiological facilities of the medical division of the Army is evidently momentarily forgetful of the warning words of a king of Israel: Let not him that girdeth on his harness boast himself as he that putteth it off. Some pestilential malady has swept defiantly and little hindered through every great war in American history, thereby robbing the most valiant warrior of the glory of traumatic death on the field of battle.

Inasmuch as I observed in the editorial no reference to mental hygiene, to psychiatry, to psychiatrists and to psychiatric hospitals, I concluded that at last the mechanism by the use of which the mentally and the emotionally unstable and unfit for military service are detected, had been brought to such a state of perfection that the soldier inducted hereafter will be of such fibre as to be unable to develop any morbid condition of instinctive, emotional, personality or intellectual origin. Wherever the American young man of arms may hereafter be and whatever his predicament may be, he will be expected to exhibit equanimity and resourcefulness equal to that of Socrates on the field of Potidea.

There is not the slightest intimation in the editorial that any American soldier has ever developed any neurosis or any psychoneurosis or epilepsy or

paresis or cyclothymia or paranoia or schizophrenia or an involutional depression. The editorial presents no evidence that the Department of War realizes that the soldier possesses attributes the condition of which means adequacy or inadequacy and happiness or unhappiness for himself.

Last May I spent several days in Boston in attending the annual meeting of the American Psychiatric Association. Never before had the attendance upon a meeting of that Association been so large—not even here in Richmond the year before. The members who attended the Boston meeting heard nothing to cause them to feel pride in the attitude of the Medical Corps of the Army towards the soldier who had developed or who might develop mental sickness while in the Army. The information available tended on the contrary to cause the psychiatrists who were at the meeting in Boston to believe that the Medical Corps of the Army was lacking in interest in psychiatry and in appreciation of psychiatrists. We could not find reason for believing that the neurological and the psychiatric activities in the Army had been organized and set going.

And on that account, last mid-summer, Dr. Roy Dennis Halloran, for several years Superintendent of the Metropolitan State Hospital at Waltham, Massachusetts, was commissioned Colonel in the United States Army and assigned to the Office of the Surgeon General to assume the headship of the Division of Neuropsychiatry. It is the earnest hope of American psychiatrists that the work in nervous and mental diseases in the Army may promptly be brought up to the high level of the other medical specialties.

The Journal of the American Medical Association is not unaware of the magnitude and the complexity of the problems presented by mental disease in the civil population of the United States. In March of 1942 The Journal published a contribution entitled: The State Hospital, by Dr. Winfred Overholser, the distinguished Superintendent of St. Elizabeth's Hospital in Washington City. Dr. Overholser is Secretary of the American Psychiatric Association; he is a gifted teacher and a well-known medical writer. Until a few years ago St. Elizabeth's Hospital probably had the largest number of beds of any hospital in the United States.

During a comparatively recent Presidential campaign, one of my patients whose blood is all Hibernian, could not understand how Mutt could possibly fail of election to the Presidency. Mutt toured the country in a special train; from the rear platform he boldly vocalized his civic philosophy and outlined his political platform, and every voter in the country saw him and heard him speak. The enthusiasm evoked by his campaign seemed to

overwhelm the opposition. Neither my Irish friend nor I could understand how Mutt could possibly fail of election. We were vaguely uneasy, however, and we realized that Mutt might be lacking somewhat in certain Presidential attributes and in somatic impressiveness. But inasmuch as all the voters were wildly declaring for him, he could not imagine what could encompass his defeat. On election morning we found out. The name of Mutt had not been printed on the ballot! Those psychiatrists who have read the editorial: The Medical Department of the Army, ought to know something about the feeling-tone of Mutt on that election-day morning.

DENTISTRY

J. H. GUION, D.D.S., Editor, Charlotte, N. C.

THE EFFECT OF A LOW-CALCIUM AND VITAMIN D-FREE DIET ON THE SKELETON AND TEETH OF ADULT RATS

TWENTY MALE ALBINO RATS were used in this investigation, 1 molar teeth fully developed. All were given, for five weeks, adequate control diet. They were then divided into two equal groups, one continued on the control diet for 220 days, the other given the experimental diet for an equal time. The two diets included equal amounts of all ingredients and elements except calcium and vitamin D.

When the animals were sacrificed, the carcasses were boiled in water and the soft tissues removed by dissection. The humeri and femora, and the molar and incisor teeth were cleaned and preserved in alcohol.

During the removal of the teeth from the alveolar bone the following observations were made: In the experimental group the alveolar bone was very soft and friable; the alveolar crest was resorbed and the teeth were loose; the molar teeth of the members of the experimental group showed more wear of the occlusal surfaces than did those of the control group. In the control group the alveolar crest displayed no resorption, and the teeth were firm in their sockets. The incisor teeth appeared to be as well developed in the experimental as in the control group.

The molar teeth from the experimental rats were friable, but chemical analysis did not reveal any decalcification. The alveolar bone of these animals, however, was decalcified, the alveolar crest resorbed and the teeth loose in their sockets. The incisor teeth from the experimental rats grew and developed normally in weight and chemical composition.

The average ash content of the femora of the experimental rats was not significantly lower than that of the control group.

The average density of the humeri from the experimental animals was decreased, but their volume was not altered. The percentage of calcium and phosphorus per unit weight of bone does not distinguish osteoporotic bones from normal bones, but calculations of weight of calcium or phosphorus or ash per unit volume of bone may serve to indicate the degree of osteoporosis.

The data indicate, under the conditions which produced osteoporosis of this experiment, that bone substance is lost from the interior of the bone without loss from the surface, and that the mineral and organic phases are proportionally decreased in the osteoporotic bone.

INSURANCE MEDICINE

For this issue JOHN B. NICHOLS, M.D., Washington, D. C.
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Company

INSURANCE ASPECTS OF MALARIA*

IN HIS American Doctor's Odyssey, Dr. Victor Heiser says: "Among all tropical diseases malaria is supreme. It is the most persistent, the most destructive, the most widespread, and the most difficult of them all to control." Under these circumstances, in regions ravaged by malaria, unchecked, the disease would be Insurance Enemy Number One. Only in proportion as anti-malarial measures are effective in eliminating or reducing the disease can malaria become amenable to life underwriting.

While formerly seriously prevalent in many parts of the country, vigorous control measures in the past four decades have greatly reduced the incidence of malaria in the United States.

In the registration area of the United States in 1900 the annual death rate from malaria was 7.9 per 100,000. It was reduced to 3.9 in 1905; and from 1905 to 1937 fluctuated in cycles of a few years each (the five-year cycles of the malariologists) from 3.9 to 1.9, without any change in the general trend. In 1938, 1939 and 1940, however, there was a sharp and continued lowering of the mortality from malaria, the rates for these years being, respectively, 1.8, 1.3 and 1.1—the lowest on record. This was a significant lowering of the trend for previous years, evidencing the successful and gratifying results of the vigorous antimalaria engineering carried out in the South during that period. The annual mortality from malaria in the United

^{1.} A. P. Lund & W. D. Armstrong, Minneapolis, reported in Il. Dental Research, Dec.

^{*}See papers by the author published in Virginia Medical Monthly, June, 1939, and December, 1942.

States for the period 1930-1940 may be exhibited as follows:

Year	per	ath Rates r 100,000 opulation	Numbers of Deaths
1 10		2.9	******
131		2.1	*******
193.		2.1	******
1933		3.7	4,678
1.34		3.6	4,520
1935		3.5	4,435
1936		3.1	3,943
1937		2.1	2,729
1938		1.8	2,378
1939		1.3	1,761
1940		1.1	1,442

The great bulk of malaria deaths in the United States have occurred in the Southern States, 97.0 per cent in 1933, 94.2 per cent in 1940. The death rate from malaria in the Southern States taken by themselves, excluding Texas, in 1930 was 10.2 per 100,000 of population. In the same states in 1940 the rate was 3.4, or including Texas, 3.3 per 100,000. This was a very gratifying decrease in Southern malarial mortality in 1940 to one-third the rate that prevailed in 1930. The mortality has been from three to seven times higher in the rural than in the urban districts; and in the colored race has ranged from one and a half times to three or four times those among the whites.

These figures show where malaria has been most concentrated. In the Northern and Western States it has been reduced practically to the vanishing point, so that in those sections a case of malaria has become a clinical rarity. It is in the South that the disease has been most prevalent, much more in the rural areas than in the cities, and in the colored than in the white population. Formerly many cities of the South had a very high malarial death rate, in some instances exceeding 250 deaths annually per 100,000 of population, equal to or exceeding that in the rural regions; but owing to the greater feasibility of prophylactic measures in them the malarial mortality in the cities has been reduced to an insignificant proportion. The northernmost tier of Southern States has been quite satisfactorily cleared of the disease; and it is only in certain rural sections of the deeper South, especially in the low-lying alluvial and swampy coastal lowlands, that the prevalence of malaria still constitutes a material health and insurance problem.

There have been two chief areas of high malaria mortality in the South; one eastern, comprising north-central Florida, across southern Georgia, and up the coast into South Carolina; one western, from southeastern Missouri, down the Mississippi Valley into Arkansas and Mississippi, to northern Louisiana, with a westward extension into southeastern Oklahoma. The affected areas were limited

in the east by the upland and mountainous regions, and in the west by the arid plains of west Texas and Oklahoma.

Thirty years ago an exhaustive medico-actuarial study was made of the mortality from malaria in the different sections of the South, and a list of the most malarious counties was set up to serve as a monitory underwriting guide. Since then, following the censuses of 1920 and 1930, studies were made by Maxcy (Public Health Reports, Volume 38, 1923, page 1125) and by Dauer and Faust (Southern Medical Journal, Volume 29, 1936, page 7577) of the distribution and mortality of malaria in the South by counties, illustrated by maps.

Counties of high malaria mortality vary from year to year, and regions in their vicinity are only slightly less undesirable; so that no sharp delimitation by any county is permanently valid. Most of the heavily infected malarious counties are of low economic grade, usually with a proportion of Negro population much higher than the average for their state, in some instances exceeding 80 per cent. Such regions are too poor to afford a probable, profitable or attractive field for insurance exploitation. Most of the malarious counties have a total death rate from all causes among the white residents of their rural portions at the worst not very unfavorable in comparison with the corresponding rates for their state or the entire country. The conditions are probably not prohibitive for well selected insurance among the more prosperous and responsible white rural residents in a satisfactory environment, and who can be depended on to take proper precautions and keep their houses well screened and their premises properly policed against the access and propagation of mosquitoes.

From the foregoing it will appear that except for certain southern regions the hazard of incurring malaria in the various sections of the United States is extremely remote, or negligible, and involves no underwriting concern. Of course, a recent attack or existing latent infection would require special consideration.

In the Panama Canal Zone malaria is not a serious insurance hazard among the white employees. Their age and economic condition and medical and sanitary supervision make them a superior insurable class. The rates of clinical illness there from malaria have since 1915 ranged from 11 to 31 cases per thousand per annum; and in the fifteen years from 1921 to 1935 there were only six deaths in all from the disease.

In Puerto Rico the mortality from malaria is heavy, in 1939 having averaged 86.9 deaths per thousand of population; but this is a marked reduction from former rates. Hawaii seems to be free from the disease.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

HICCOUGH AFTER LAPAROTOMY

In the poor-risk patient after laparotomy hiccough is an ominous sign which demands prompt investigation and relief. This is particularly true since hysteria, a common cause of hiccough in nervous people, does not manifest itself in those who are really ill. After laparotomy respiration is painful and spasmodic contraction of the diaphragm at this time is so painful that it should not be attributed to hysteria and casually dismissed as being of no significance.

After abdominal operation the most common cause of hiccough is gastric distention. This may come from overloading the stomach, from toxemia as in chronic alcoholism or from obstruction anywhere in the upper intestinal tract. Lavage may be a life-saving procedure. The completeness of relief from it and the duration are dependent upon the condition causing the distention.

Early peritonitis from infection should be suspected in hiccough without apparent cause. It is marked by fever, leucocytosis and progressive tympany. The absence of peristalsis marks the silent abdomen of paralytic ileus. The patient spits up foul-smelling regurgitated intestinal contents at short intervals, rather than emptying the stomach by massive vomiting. Continuous stomach suction, continuous intravenous administration of glucose solution and the application of hot stupes to the abdomen should be begun as soon as the condition is suspected.

The third most common cause of postoperative hiccough is mechanical obstruction of the intestine by kinking or by fibrous bands. In thin patients peristaltic intestinal patterns may be seen over the abdomen. Unless there is intestinal strangulation in most cases relief may be afforded by hot compresses to the abdomen, continuous gastric suction; and the intravenous administration of glucose solution to prevent dehydration, to provide calories and to maintain electrolytic balance. If this treatment does not bring prompt relief the intestine is strangulated and the indication for operative relief by urgent.

Another common cause of hiccough after laparotomy is irritation of the phrenic nerve from diaphragmatic pleurisy. The clinician should also think of pressure on the nerve from a tumor mass or from a subphrenic abscess. Although emptying the stomach by lavage gives relief in most cases of hiccough, the condition may be caused, paradoxically as it may seem, by the distal tip of the in-

dwelling stomach tube causing mechanical irritation of the left phrenic nerve. After a recent case of high, subtotal stomach resection for massive ulcer on the posterior wall, hiccough could be relieved only by the removal of the tube and returned only when the tube was again inserted.

In elderly people hiccough may come from obstipation and lack of elimination. In them it may be considered to be a uremic manifestation. No matter what the cause, hiccough occurring after laparotomy, if allowed to persist, will surely result in progressive exhaustion. In paroxysmal pain, the patient must become weaker until the hiccough stops and he can eat and sleep again.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

RENAL SURGERY

RECENT PROGRESS in surgery of the kidney has been directed toward conservation of tissue, and Lowsley¹ has summarized and reviewed the newer technical procedures revealing this trend.

Dilatation of the pelvis and calyces, due to stricture at the ureteropelvic junction, may be treated by exposing the region, severing the aberrant vesels and performing either a Rammstedt or more extensive plastic operation on the ureter. The preferred procedure is the Y-plasty operation of Foley.

The use of ribbon-gut, which tends to the conservation of renal tissue, "has become a standard method for all cases in which an incision is made through the renal cortex."

Hemostasis by insertion of a pad of fat (superior to muscle as a hemostatic) makes possible the removal of large staghorn calculi where there is sufficient renal cortex to justify the saving of the kidney. The fat inserted in a nephrostomy wound becomes incorporated in the wound repair, averting secondary hemorrhage.

The repair of a kidney following resection of a damaged calyx may be accomplished by the Yunck and Forsyth technique, viz: "A wedge-shaped piece of renal tissue is removed with the offending calyx and its contained calculus, a drain inserted, and hemostasis and repair accomplished" by use of a pad of fat in the wound, and ribbon-gut through the capsule.

The solubility of certain stones has now been convincingly demonstrated. Levulinic acid is to be preferred to sodium citrate-citric acid, as it is less irritating, but is also less effective. Alternatives are sodium levulinate-levulinic acid, and the more

^{1.} Lowsley, Oswald S., Renal Surgery, Jour. Urol., Jan.,

effective magnesium oxide-citric acid solution or magnesium citrate-sodium citrate-citric acid solution.

A new method of nephropexy utilizes the tying together of ribbon-gut sutures, fixed around the upper and lower poles, to form a basket-line support. The lower suture is fixed in the quadratus lumborum muscle and the upper tied over the twelfth rib. (Care should be taken to ensure that the ureter is straight and unkinked.) A semi-decapulation completes the procedure, giving perfect fixation.

Heminephrectomy may be accomplished with safety and ease by excising the diseased portion of the kidney "by making a V-shaped incision in the healthy portion, hemostasis and repair being accomplished by the fat-ribbon-gut method." The same method may be applied to the removal of one-half of a diseased horseshoe kidney (making the V-shaped incision in the isthmus), solitary cysts and diseased portions of anatomically normal or double kidneys (except in cases of tumor or tuberculosis).

There is now definite proof that early operation upon traumatized kidneys is desirable. Experiments on animals support this view. In the human, trauma may produce serious lesions without untoward symptoms, so that an exploratory operation is advisable when there is any doubt, for "remote partial or complete destruction of the renal cortex following traumatism has such grave results, in the form of contracted kidney with elevation of blood pressure, stone formation, etc."

Operative intervention may also be applied beneficially in cases of nephralgia in which no lesion is demonstrable. Excision of the entire sympathetic nerve supply to the kidney (by stripping the renal vessels and ureters) is indicated and decapsulation is recommended.

Relief of symptoms of malignant hypertension, if not cure of the condition, may be obtained usually by renal sympathectomy. In this connection the work of Page of Cincinnati on "renin" is worthy of interest. If a synthetic product with similar properties could be produced, then it might be possible to reduce the blood pressure and also relieve the symptoms without surgery. As it is, the substance is difficult to obtain.

PHYSICIANS AND SURGEONS—RECOVERY FOR UNSOLICITED SERVICES RENDERED IN AN EMERGENCY—The defendant's testator, seriously wounded, evidently by his own hand, was found by two friends who summoned a physician. The latter in turn sent for the plaintiff, a surgeon. The plaintiff had the testator removed to a hospital, and there operated on him, to no avail. The plaintiff brought suit against the estate for the services rendered. Whether the testator objected to or acquiesced in the treatment was left in doubt by the evidence. From an adverse judgment, the defendant executrix appealed. Heid, that since no at-

tention could be given to the testator's attitude in the extremity, his estate was liable for the necessary services. Judgment affirmed. *Matheson v. Smiley*, [1932] 2 D. L. R. 787 (Man.)

-Current Legal Thought.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

TREATMENT OF NEW GONORRHEA IN THE MALE

DEFINITE instructions as to how best to care for patients with acute gonorrhea are in order. Here are reliable, plain instructions from the Director of Venereal Disease Control of a State Department of Health.¹

Eighty per cent of new infections with gonorrhea may be effectively treated with sulfathiazole and sulfadiazine. Findings of gram-negative intracellular biscuit-shaped diplococci in properly stained smears of urethral discharge should be a prerequisite to treatment.

Four grams of sulfathiazole daily (2 half-gram tablets p. c. and h. s. taken with a full glass of water) for five days, or two grams daily (one half-gram tablet after meals and at bedtime) for 10 days is the usual procedure. No other treatment is needed. The efficiency of the drug seems equal in both schedules and your choice will depend entirely upon time.

In 75-80 per cent the discharge subsides almost at once and has usually cleared entirely by the end of the 3d day of treatment, in any event by the end of the 5th day. This means that the infection did not extend, in all probabilities, beyond the anterior urethra. Test of cure may be started on the 8th day following institution of treatment. This consists of examination of the prostatic secretion and urine sediment by the gram stain and by cultures when available. Two subsequent negative smears at weekly intervals is reasonable evidence of cure.

If by the end of the 5th day of treatment, there has been no improvement of discharge, chemotherapy should be stopped and daily anterior irrigations of weak permanganate solution given for the next five days; then a second course of sulfathiazole.

In those cases in which the second sulfa course fails the posterior urethra is almost certainly involved. As long as the 2nd glass of the 2-glass test remains clear, gentle anterior irrigations daily with potassium permanganate solution, 1:8000 to 1: 10,000 made up fresh and kept near 105°. The container must not be more than three feet above the table level. Never use more than one quart per

^{1.} R. A. Frary, Lincoln, in Neb. State Med. H., Mar.

patient per treatment. Some patients cannot tolerate a quart without irritation to the urethra. Promoting drainage and making the patient feel better has some case-holding properties. If the patient does not feel better during and after the anterior irrigations there is something wrong with your technic. It may be advisable to give the patient a syringe and medication for self treatment away from your office. The physician must take time to show the patient exactly how the injection is to be made. Not more than 6 c.c. of a 5 per cent mild or 0.5 per cent strong protein silver solution should be instilled into the urethra, always with a small asepto-type syringe, the solution retained in the urethra for five minutes by the clack

If there has been no irritation of the posterior urethra and the first glass has been clear or nearly so for two weeks, cure tests are started. Prostatic massage in all cases of sulfonamide failure must at first be merely a gentle palpation of the organ. Even this may cause a flare-up, do not touch the prostate until it again quiets down. If there are no untoward symptoms from the first stroking repeat with extreme gentleness in three or four days. In expressing the prostatic secretion, begin at the outside of the gland and work toward the center, three gentle strokes on each side.

If the posterior urethra should become involved during the course of local treatment as indicated by urgency, pain and cloudy first- and second-glass urine, stop all local treatment at once and prescribe hot sitz baths daily plus bed rest until the prostate cools down. This usually takes three or four days, after which anterior irrigations may be resumed. Gentle massage of the prostate is indicated after the second glass of urine is clear and the first glass clear or nearly so for at least two weeks. Tests of cure as above are then in order.

Under this scheme of treatment, severe complications are rare.

A full diet should be given and the bowels kept moving freely. Patients should not indulge in alcohol or sexual excitement, advice that is good even though they are cured of gonorrhea.

HYPERTENSION

It is refreshing to find an article which shows that the author has a comprehensive knowledge of his subject, and which tells the reader how to learn the state of his patient and what to do for him.

A blood pressure which fluctuates as much as 50 points means that the arteries are not badly damaged and are still capable of vasodilation. The response to vasodilator drugs, sedatives, and rest is a good indicator of the condition of the arteries.

Very little response indicates much structural damage.

Nocturia is a frequent symptom and with occasional albuminuria does not necessarily mean kidney disease. Persistent albuminuria in the absence of congestive heart failure with loss of flexibility of the urine specific gravity mean kidney damage. Phenolsulphonethalein and urea-clearance tests and N. P. N. and creatinine tests of the blood give a fair idea of kidney function.

Urological investigation of the kidneys with intravenous or retrograde pyelograms gives the final word in certain urological conditions. Frequently such conditions are present where not suspected.

The treatment of hypertension, both medical and surgical, is unsatisfactory. The brightest outlook for a specific remedy is in the possible development of the anti-pressor substance from the kidney.

The surgical treatment of hypertension by sympathectomies of various types is not the answer to the problem. Allen and Adson in surveying 450 cases subjected to sympathectomies at the Mayo clinic report the lowering of b. p. excellent in 13 per cent, fair in 18, not affected in 30, and only temporary with return to preoperative levels in 39 per cent. However, in 80 per cent the symptoms were relieved regardless of the postoperative b. p. and this seems to be the most encouraging result from sympathectomies. The cases must be selected carefully preoperatively to expect good results. There must be little if any damage to the heart, kidneys or arteries. The blood pressure must be very labile, dropping to normal, or near normal, following intravenous pentothal sodium, sodium amytal by mouth, or sodium nitrite in repeated doses. A thorough trial of medical treatment should be instituted before surgery is resorted to.

Better results are reported by Woods and Peet of 350 cases in which was used a different type sympathectomy; a survical rate of 33 per cent of malignant hypertension after five years, as compared to 99 per cent mortality rate in a similar group treated medically, after five years.

Page has shown that sympathectomies do not correct the arteriolar vasoconstriction responsible for hypertension. Following sympathectomy, stasis in the splanchnic veins decreases the volume of blood returning to the heart. Blood pressure may be lowered as a result of actual decrease in volume of blood pumped into the arterial tree.

Sympathectomy is probably justified in rapidly progressive hypertensive cases, since it seems at least temporarily to stop the progress of the disease. The prognosis is better in patients under 30.

In unilateral kidney disease, there seems no way to tell whether hypertension is due directly to the

^{1.} J. N. Compton, in Il. Ark. Med. Soc., Mar

kidney disease, incidental, or with vascular disease of the opposite kidney. The best reductions of b. p. following nephrectomy have been in cases of unilateral chronic atrophic pyelonephritis, although even here results are not consistent.

Urological disease of children such as pyelitis, pyelonephritis and those due to obstructive lesions of the urinary tract, should be thoroughly investigated at the time of discovery and cleared up, to prevent later in life the syndrome of hypertensive disease. Intravenous or retrograde pyelograms may be necessary. Infection should be eradicated by use of urinary antiseptics such as the sulfadrugs and mandelic acid.

In the medical treatment of hypertension, the psychic element must be strongly considered in the type producing no symptoms. The heart, kidneys and arterial system found in good condition, and the b. p. not reaching too high levels, strong ressurance should be given about the improbability of strokes, or heart or kidney failure. This will do more toward preventing the patient from thinking too much about his b. p. than any other treatment.

Reduction of overweight will sometimes cause considerable reduction in b. p. In others, while it may not materially lower the pressure, reduction of weight should perform a double function by taking strain off the digestive and circulatory systems.

In moderately severe cases prescribe a regular program of work and relaxation with attempts to avoid anxiety and fear.

Potassium sulfocyanate lowers the pressure in half of the cases 20 or more points. Blood concentrations must be determined at first every three or four days, and then once a week or longer. A simple inexpensive apparatus for doing this is now put out.* Effective blood concentrations are 6 to 12 mg. per 100 c.c. The average daily dose is 6 to 9 grains for the first 4 to 7 days, followed by 3 to 6 grains or more daily. Toxic symptoms do not usually develop under 15 mg., but may occur with low levels. These are weakness, nausea, dermatitis, mental confusion and many others. Sedatives, barbiturates and bromides and nitrites are perhaps the next best drugs. Aminophyllin is only weakly effective. Sympathectomy must be seriously considered in a certain number of these moderately severe cases which do not respond to medical treatment and seem to progress rather rapidly.

A few cases of malignant hypertension are suitable for sympathectomy. Morphine must be resorted to frequently to control headache. Fifty per cent glucose solution and 10 per cent magnesium sulfate solution intravenously may be required to control eclampsia, or epileptiform convulsions. Pentothal sodium intravenously, and sodium amytal by mouth frequently lower pressure.

*Eli Lilly & Co.

TUBERCULOSIS

J. DONNELLY, M. D., Editor, Charlotte, N. C.

THE GENERAL PRACTITIONER IN WAR-TIME TUBERCULOSIS

THE REDUCTION in the incidence of tuberculosis in the past more than twenty years has been encouraging, but the disease remains the same disease. With war comes a flare-up of tuberculosis because of hardships lowering physical resistance of the people, and of many more opportunities for the spread of infection. Increase in incidence and mortality can be traced in practically all instances to inadequate food supplies; insufficient institutional beds and reduced facilities for medical care: lowered resistance because of worry, disturbed rest, overcrowding and poor housing, especially in areas where war industries are concentrated.

Our efforts toward earlier diagnosis, hospitalization of active cases and discovery of infectious contacts must be redoubled. The general practitioner is almost invariably the first physician to see the patient, and his is the opportunity and responsibility, to a great extent, for early diagnoses, prompt isolation and examinations of contacts.

In the last issue of the *Bulletin of the National Tuberculosis Association*, Geary attempts to point a way for the g. p. to take care of this, one of his many problems.

The author says it is easy for a tuberculosis specialist to diagnose tuberculosis after the patient l as been considered suspicious by the practitioner; but the difficult problem is for the practitioner to give tuberculesis its true value as one of many conditions from which his patient may be suffering. Cough is common in tuberculosis, and chronic cough in a person who has had an acute pleurisy is very suspicious of tuberculosis. Bronchitis. bronchiectasis, chronic sinusitis, or cardiac disease may cause cough. Fatigue on slight exertion, loss of weight, low fever and pain in the chest may or may not be associated with cough. Hemoptysis, usually a later symptom, may be the first symptom. Many patients have been fortunate in having a pulmonary hemorrhage early, because it has caused them to seek immediate attention.

After the disease has become more advanced, the symptoms become so obvious that it usually is suspected by most general practitioners. This method' of diagnosis, however, is late, and that is what the author says he wishes to alter. Practitioners must be on the alert for the disease when the infection is early.

Many tuberculosis specialists contend that the greatest deterrent to the general practitioner in making an early diagnosis is the expense of the x-ray examination. The author observes that it is

much simpler to have an x-ray picture made than to do a chest examination, and that much more knowledge is gained from the picture than from the physical examination. X-ray facilities are available in few general practitioners' offices; but in all but the rural communities arrangements can be made for x-ray examination of the chest for the indigent as well as others. The methods to be used for the diagnosis are physical examination, tuberculin skin-test, sputum examination, fluoroscopy and the x-ray picture.

The physical examination is a very necessary part of the diagnostic procedure, but it must be done carefully and painstakingly. Even then it is not conclusive, as many patients in sanatoria will testify, because many of them have been previously examined by their family physicians and told that there were no signs of tuberculosis present. Many such mistakes are made in early cases when symptoms are present as well as positive x-ray findings. The author says that this is no reflection on the skill of the physician, but further demonstrates the fact that symptoms and x-ray evidence of disease are present before definite physical signs of disease develop.

Sputum examinations for tubercle bacilli are also very important, and are positive corroborative evidence when the bacilli are found. However, a negative sputum does not mean that no tuberculosis is present. The pulmonary lesion may be of a type in which few bacilli are present in the sputum; the sputum may not come from deep in the chest near the active lesion; or one may fail to make a sufficient number of sputum examinations. In cases with a preliminary negative sputum, repeated examination should be done before reporting negative.

The skin-test, intradermal or patch, has more negative than positive value. The positive test indicates that the skin has been sensitized by a previous infection by the tubercle bacillus, but gives no information as to when that infection occurred; it is not an indication that active tuberculosis is present.

Fluoroscopy is of great benefit in the diagnosis; but the x-ray film shows with much more accuracy the type and condition of tuberculous lesions, and gives a permanent record for comparison with subsequent films taken for the purpose of learning whether the lesions are improving or retrogressing.

The author says few general practitioners are interested in the treatment of tuberculous cases after they are diagnosed, principally because they do not come in contact with a sufficient number of such cases to learn to treat them with any degree of success, and are always glad to get them in a sanatorium. The g. p. may be of great assistance in examining and skin-testing all members of

the patient's immediate family and others known to have been exposed. Hence, it is necessary to make a thorough search in the patient's own household by means of the skin-test, and, if the test is positive, by x-ray examination of the chest of each individual so tested. In no case is one picture sufficient. Pictures should be made every six months for several years so that, if there should be in the future any acute spread of the primary focus it can be recognized in its earliest stage.

Another important duty of the general practitioner is his coöperation with the sanatorium staff in periodic checkups of the patient after his discharge from the hospital with his disease arrested.

The author concludes by saying that "the greatest achievement that can be made by the general practitioner in tuberculosis work is to keep the disease constantly in mind and also to remember that an ideal is to be sought in controlling it would be to have every adult x-rayed yearly."

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

DIAGNOSING AND TREATING MENINGO-COCCUS MENINGITIS IN THE HOME

This is not a common condition, but its power to kill and its amenability to prompt and proper treatment make it incumbent on every practitioner to keep in the front of his mind the possibility of its occurrence and at his finger tips the best means of cure.

The article¹ abstracted serves these purposes and it has the additional attraction of saying the g. p. is competent, to treat this serious disease, and in the home.

We have no efficient means of controlling the spread of this disease, so that importance must be laid on the recognition of early cases and immediate, effective therapy.

The common early manifestations are those of a simple infection of the upper respiratory tract with symptoms of grippe. Anyone presenting this synchrome, whether he has fever or not, should be suspected of having a meningococcus infection and warned to report immediately any untoward progression of symptoms: headache is always present in individuals old enough to complain of it, often dull, usually progressive and not relieved by ordinary medications. Next in importance are irritability, nausea and vomiting, fever, chills, petechial rash, stiffness and pain in the neck and back, bulging fontanel and delirium. Meningitis can be ruled out only by spinal tap, readily done in the home. All that are necessary are a hypodermic syringe and

^{1.} Ralf Martin, Portland, in Jl. Me. Med. Assn., Mar.

an ampule of novocaine, a sterile lumbar-puncture needle, and two or three sterile vials in which to collect the fluid. If cloudy fluid is obtained, treatment should be started immediately without waiting for the laboratory report.

The treatment is simple and effective. An adequate sulfa drug level is to be obtained in the circulating blood at the earliest possible moment. Occasionally this can be done by the oral route, but most often it is advisable to give the drug parenterally either because time is precious or the patient vomiting or even comatose. Sodium sulfadiazine in 10 c.c. ampules of the 25 per cent solution diluted with 40 c.c. of distilled water can be given directly into the vein and may be given intramuscularly undiluted. The best practice with older children or adults is to give one ampule intravenously and one intramuscularly, an initial dose of 5 grams. Then one ampule intramuscularly every eight hours until it can be taken by mouth. For infants and small children give 1 grain per pound of body weight for the initial dose, divided between the two routes; followed by one-third this initial dose, intramuscularly, every eight hours, or until it can be taken by mouth.

The necessary equipment can be carried in a physician's bag:

One 50 c.c. syringe

One 10 c.c. syringe

10 c.c. ampules of 25 per cent sodium sulfadia-

50 c.c. ampules of distilled water.

Boil and assemble the 50 c.c. syringe and needle. Break the top of the ampule of sodium sulfadizine and draw the contents into the syringe. Then break the top of the 50 c.c. ampule of distilled water and draw into the syringe 40 c.c. Pull a fairly large air bubble into the syringe and rotate it endwise several times so that the mixing is complete. The air bubble may then be expelled and a suitable vein entered. The actual injection should take at least 10 minutes, or 5 c.c. per minute. For the intramuscular route a 10 c.c. syringe is used and the 25 per cent solution is given undiluted deep into the body of the gluteus medius muscle midway between the greater trochanter and the iliac crest.

One must be sure to give the drug *inside* the vein when using the intravenous method, and well into the muscle when using the intramuscular method, as in either case it will cause a slough if deposited in the subcutaneous fat.

Repeated spinal punctures are useless and may do harm, and the use of antisera in combination with sulfa drugs does not decrease the mortality, unless the latter are poorly tolerated.

THE DRUG THERAPY OF MIGRAINE HEADACHE

ALL OF US want to keep informed on the best means of treating our migraine patients. Recent investigation¹ gives the palm to ergotamine tartrate.

The effects of various medications used by 200 patients' evaluation are summed up.

Eight groups, comprising 48 different drugs, had been tried. The group of vasoconstrictors included caffeine and ergotamine. Both seemed to be highly effective. Eighty per cent of those using ergotamine reported complete relief from the migraine attacks.

The narcotic group consisted of morphine, pantopon, codeine and scopolamine. Morphine was completely effective in 59 per cent of the patients who used it.

The barbiturates helped 16 per cent of those who tried them. Acetylsalicylic acid gave relief to 10 per cent of the 186 patients assumed to have tested it adequately.

Seidlitz powders, 18 per cent of its users reported helpful.

Bromo-Seltzer and the various bromide salts were relatively ineffective.

Although not many patients in this study were treated with endocrine substances, of these few only one patient was satisfied with the relief obtained.

Of proprietary medicines described as headache remedies, few migraine sufferers have tested them. Of the 29 who did, only four per cent obtained adequate relief.

The favorable reports on the use of ergotamine tartrate by 80 per cent of its users, in spite of the unpleasant side actions, reëmphasize the observation that drugs causing vasoconstriction of the branches of the external carotid artery are by far the most successful in terminating or aborting migraine headaches.

Perhaps newer therapeutic methods, such as oxygen inhalation, vitamin B_1 therapy, and arterial ligation will prove effective in the future. Until such time, ergotamine tartrate remains the most effective means of terminating a migraine attack.

1. L. S. Trowbridge, et al. Boston, in N. Ena. II. of Med., Nov. 5th, 1942.

PANEL DISCUSSION ON PROPHYLACTIC PROCEDURES*

DIPHTHERIA J. E. Dyson, M.D., Des Moines

EVERY 9-month-old child should have either three injections of Ramon toxoid ($\frac{1}{2}$, 1 and 1 c.c.) at intervals of three weeks, or two 1-c.c. injections

^{*}Meeting Polk Co. (Ia.) Med. Soc., Des Moines, Jan. 30th, Jt. Loca State Med. Soc., March.

of alum-precipitated toxoid at intervals of four weeks. Six months later these infants should have a Schick test, and those positive should have the toxoid injections repeated. It is not as necessary to use a Shick control in these infants as in older individuals, since there are very few false positive reactions in infancy. It is not necessary to do a preliminary Schick test in infants; practically all children of this age need protection. It is well to repeat the Schick test when the child is five or six years of age.

In Public Health work it is recommended that another toxoid injection be given children at five years of age without Schick testing.

Where there are less diphtheria cases there will be less opportunity for development of natural immunity, such as has occurred in the past by minor infections. From now on those who are not immunized in early childhood will remain susceptible all their lives and be endangered by the disease in later years. Thus, there will be more adult cases. It is becoming increasingly more dangerous not to be immunized

SMALLPOX

A. M. SMYTHE, M.D., Des Moines

INFANTS may be vaccinated for smallpox as soon as the cord is off. The earlier the vaccination the less the reaction. Reactions of primary type pass through the stages of maculation, papulation, vesiculation, pustulation and scabbing, and require 21 days to complete; maculation on the fourth day and the height of the reaction around the seventh to 10th day.

The reaction of immunity consists of some local induration, redness, and occasionally vesicles within 24 hours. This type of reaction indicates the individual has immunity and probably will not contract smallpox. Reaction should be read within 36-48 hours.

The accelerated or vaccinoid reaction goes through the same stages as the primary, but its course is completed in four to seven days. The local reaction is negligible and the constitutional symptoms are wanting. Frequently the stage of pustulation never occur. This type of reaction probably denotes the individual does not have complete immunity.

Some children are vaccinated many times without a reaction; this does not denote immunity. Failure means impotent vaccine or an error in technic. Children with chronic skin diseases such as eczema should be vaccinated only when exposed.

The only sure way of conquering smallpox is to vaccinate early and revaccinate when the child enters school.

SCARLET FEVER

SCARLET FEVER is contracted by coming in contact with some individual who has the disease, with or without a rash, or an immune carrier. The idea that the scales are infectious has been disproved.

Active immunity is established by having the disease, or by receiving subcutaneous injections of sterile scarlet fever toxin. Infants have a negative Dick test at birth if the mother is immune, which immunity disappears with first year of life. If the mother has a positive Dick test, the infant also will have a positive test at birth.

The Dick subcutaneous method gives the best results. Give five subcutaneous injections at weekly intervals: 650, 2500, 10000, 30000, 1000000, 120000 skin test doses. The skin test dose of scarlet fever toxin is the amount which gives positive reactions in persons susceptible to scarlet fever and negative reactions in persons immune to the disease.

It is important to determine the sensitivity of the individual to the scarlet fever toxin since this varies in each case. First, give a Dick test. If the pink area is 30 mm. (1 1/5 in.) in diameter, give one-half the first dose; then one week later begin the regular immunizing course. If greater than 30 mm., give one-fourth the first dose.

Technic of Dick test. Syringes and needles should be boiled in alkaline tap water since other disinfectants will interfere with the test. Remove all water from the syringe and needle to prevent dilution of the toxin. Give the test intradermally. Do not confuse it with the Schick or Mantoux test in which edema is present. The Dick test consists of a pink area varying in size and intensity, and induration or edema is not present. The test should never be read before 18 or after 24 hours. A flushed or red area is a positive test and indicates the individual is susceptible to the disease.

Two weeks after the last immunizing injection, give another Dick test, and if this be positive repeat the fifth injection. Immunity will develop in over 90% of the cases and will last 12 years in 90% of the cases.

ACTIVE IMMUNIZATION FOR PERTUSSIS CHARLOTTE FISK, M.D., Des Moines

THERE IS NO NATURAL immunity to pertussis. Newborn infants are extremely susceptible to whooping cough. One attack usually confers a lifelong immunity.

Active immunization is had from vaccines prepared from phase-one strains of *Haemophilus pertussis*; the consensus is that it confers complete protection on some and partial protection on others. Sauer found whooping cough seven times more frequent in children vaccinated before three months of age than in children vaccinated after seven months of age. No deaths from whooping cough were reported in the group of children who had received pertussis vaccine.

Recommended:

- 1. Use of phase-1 pertussis vaccine; total dosage of 80 billion bacilli given in three injections at intervals of three weeks; or
- 2. Use of combined diphtheria toxoid and pertussis vaccine; two to three injections at intervals of four to eight weeks.
- 3. Active immunization for pertussis to be instituted in children after they have become seven months of age.

Revaccination (one injection) two years after the initial vaccination is advocated by a few.

ACTIVE IMMUNIZATION AGAINST TETANUS

L. F. HILL, M.D., Des Moines

THE VALUE and dependability of active immunization against tetanus by fluid toxoid or alumprecipitated toxoid has been established beyond question. The experience of the British Army following the evacuation from Dunkirk furnishes the most spectacular clinical evidence of its efficacy. Ninety per cent of the British military personnel had received prophylactic inoculations (voluntary) a year previous to the beginning of the war, which left 10% unprotected who in this instance served as controls. Eight cases of tetanus developed among the wounded men who arrived in England five or six days later. These eight cases were all among the 10% who had not received prophylactic inoculations. It had not been possible to passively immunize the wounded in either group with tetanus antitoxin.

In France even horses have been protected by the active immunization process, using toxoid, with the result that tetanus has been abolished among the animals thus treated.

In private practice, failure to give it, even in trivial wounds, runs the risk of a medicolegal action if tetanus develop. On the other hand, from injectious of horse serum there are dangers of an anaphylactic reaction, of serum sickness, or of possible sensitization which would enhance the risks of future, perhaps more mandatory, administration of horse-serum-containing antitoxin.

Tetanus toxoid makes it possible to avoid the undesirable reactions of horse serum injections. There are other disadvantages of anti-toxin over active immunization with toxoid. When the usual prophylactic dose of tetanus antitoxin (1,500 units) is administered, the blood serum will contain 0.1 to 0.25 unit of antitoxin per c.c., generally sufficient to prevent the development of tetanus

only for two weeks, with complete disappearance within another week or so. While the average incubation period of tetanus falls within a 10-day period, it is not invariably so, and in certain cases it may be much longer than the two-week period of presumed efficacy of the antitoxin. Knowledge of this fact has led to the recommendation that antitoxin administration be repeated at intervals of one or two weeks in severe injuries, where tetanus might be a possibility. When a basic immunity with tetanus toxoid has been completed, stimulating dose of toxoid at the time the wound is received results in a prompt rise, within four or five days, of the antitoxin level in the blood serum usually exceeding 0.1 unit per c.c. The rise continues, often reaching 15 or more units of antitoxin per c.c. of serum, and it falls back slowly to original levels after several months.

Only two injections of alum-precipitated toxoid are necessary and the optimum interval is three months. Any injury received during the interval between the first and last injections or within 30 days following the final injection of the basic immunization should have the usual prophylactic dose of antitoxin.

Some report subsidence of effective immunity to below the level of 0.1 unit within a few weeks or months after the final injection of the basic series; others as long as two years. There is unanimous agreement that a booster dose given months or years later will result in a rise in the antitoxin level within seven days or less to an effective immunity. The duration of the high antitoxin level following a stimulating dose is much longer than that which follows the second or last of the basic course: but in time it, too, falls to lower levels. Persons who incur an injury which would ordinarily call for tetanus prophylaxis, and who have completed basic immunization at least a month previously, should have a stimulating dose of toxoid. The army regulations require the routine administration of this stimulating dose a year after the basic immunization, as well as at the time an injury is received.

Combined diphtheria and tetanus alum-precipitated toxoid. Evidence indicates that the antigenic properties of the combination is superior in this respect to each when given singly. In the author's experience using this product with several hundred children, no untoward reactions have occurred nor have local abscesses been encountered in any child.

The incidence of anaphylactic reactions and urticaria is extremely low. Most of these have followed the second injection. In several cases the urticaria persisted for several months. The precautionary measure of having adrenalin available is well worth keeping in mind.

Certainly active immunization against tetanus is highly desirable for all military personnel, for children, and for all allergic persons where the giving of antitoxin might be hazardous. Furthermore, it would seem indicated for farmers and industrial workers.

Typhoid and Paratyphoid (A and B) $\,$

C. F. JORDAN, M.D., Des Moines

THE STANDARD PROCEDURE is three subcutaneous inoculations at weekly intervals, the initial amount being 0.5, the second and third 1.0 c.c. Repeat the three every three years, or one preventive treatment (1 c.c.) each year.

Some prefer the intracutaneous method since reaction is milder than with subcutaneous inoculation and but one treatment takes the place of three. The following statement is significant: "Revaccination with a single dose of 0.1 c.c. vaccine (intracutaneously) constitutes a reliable method of renewing immunity to typhoid fever, and should be the method of choice."

Immunization and reimmunization against typhoid and paratyphoid fevers are required for personnel in the armed forces and desirable for those who travel and are subject to varied milk, water and food supplies.

ROCKY MOUNTAIN SPOTTED FEVER

C. F. JORDAN, M.D., Des Moines

All biologic products should be kept under constant refrigeration until time of use, but should not be allowed to freeze.

IMMUNIZATION is advised for persons who are repeatedly exposed to the wood tick or common dog tick (*Dermacentor variabilis*) in known endemic areas.

For adults and children over 10 years of age two injections of 2 c.c. each or 3 or 1 c.c. each at intervals of 5-10 days. An additional injection is desirable in areas of a high fatality rate. Children under 10 years of age require half the adult dosage.

Chick-embryo vaccine is as effective and may prove more effective than tick-tissue vaccine. It is to be repeated each year. No severe local or constitutional reactions have been observed.

Chick-embryo vaccine is supplied without cost, through the courtesy of the Rocky Mountain Laboratory of the United States Public Health Service, and is available on request from the Iowa State Department of Health.*

TYPHUS FEVER

C. F. JORDAN, M.D., Des Moines

SUFFICIENT EVIDENCE is not available regarding the value of this vaccine in conferring immunity in man; it is probable, however, that the vaccine

*Available also through the Board of Health of Virginia, N. C. or S. C.

produces a certain degree of protection. Three injectious of vaccine are administered, the amount of each being 1 c.c. with an interval of seven days between treatments. Subsequent immunization consists of a stimulating dose with 1 c.c. of typhus vaccine as long as danger exists of exposure. Untoward reactions have not been reported.

CHAIRMAN HILL: All children should be routinely immunized against diphtheria, smallpox, whooping cough, and tetanus. It is desirable that these immunizations be completed within the first year of life. Pertussis immunization is best carried out in children about eight months of age, and diphtheria immunization around nine months when any inherited immunity has been lost. Single injections cannot be depended upon to produce a lasting immunity against diphtheria. Schick testing or, better still, reimmunization, should be carried out for children when they begin school and again at the beginning of junior high school. Revaccination against smallpox should be done at five- to seven-year intervals. Whooping cough and typhoid antibodies may be stimulated by annual doses of vaccine. Active immunization against typhoid and scarlet fever is practicable and may be carried out whenever desired.

PEDIATRICS

PROTECTING THE NEWLY-BORN INFANT FROM TUBERCULOSIS

A VIGOROUS APPEAL¹ for better protection of our babies from tuberculosis is given in essence, and with hearty endorsement.

The tubercle bacillus may well be expected to take advantage of the crowding of homes and nurseries; of the rapid increase in industrial employment of women; of the abrupt rise in the marriage and birth rates during the last year. In Scotland, war-ridden for two years, the infant mortality rate has climbed from 55 to 80 per 100,000.

The Negro death rate from tuberculosis averages from three to four times that of the white race. Aside from poorer economic status, Negroes are more susceptible than white people to the disease. Conditions prevailing during and immediately following a war favor the incidence of tuberculosis as does also the factor of race. The younger the infant is when infection occurs, the less favorable the prognosis. Occasionally one sees infants infected under the age of six months who do not develop tuberculous disease. Those who would prevent the spread of tuberculosis must regard early infancy — particularly the period of the newly-born—as an extremely important age on which to concentrate.

1. P. J. White, St. Louis, in Jl. Mo. State Med. Assn., Mar.

. At the age of one year an infant was examined because of many complaints including fever of 100 F. and lack of appetite (but not cough or loss of weight). A routine tuberculin test was positiveand was the only significant finding. The chest was röntgen-rayed and a small shadow seen in the right lower lobe with slight enlargement of the corresponding hilar lymph node. The family contacts-parents, grandparents and maid-were examined by the family physician and no evidence of communicable tuberculosis was revealed. Shortly afterward, on visiting the hospital in which this infant had been born, I found that the "nursery nurse" who had cared for her had been sent to a sanatorium with moderately advanced tuberculosis. A number (impossible to determine accurately) of other infants for whom this nurse had cared also were found to be infected. Fortunately the infant under consideration had a mild first infection and good resistance. Subsequent röntgen rays have shown arrest of the process. If reinfection can be avoided, her outlook is good. The nurse, be it noted, had had a careful physical examination and raying of her chest one year prior to the discovery of her active infection.

A painfully similar sequence of events occurred in another hospital when an intern serving in the nursery for the newly-born infants was found to have active tuberculosis with positive sputum. He had been examined and rayed at the beginning of his hospital work.

A great majority of hospitals now require preliminary and periodic examination of all personnel including maids and attendants. Could anything require more vigilance and conscientiousness on the part of hospital authorities?

The duty of the obstetrician is clear. He must discover, or if necessary have an internist discover, any communicable, active tuberculosis in his pregnant patient. If he knows such active infection to exist, he must isolate the baby from the mother immediately after delivery. Whether or not interruption of pregnancy is indicated depends upon the individual case, as does also the advisability of avoiding future pregnancies.

The Contact Infection Committee of the Academy of Pediatrics, 1942, added tuberculin-testing and chest röntgen-raying of pregnant women to its program for the eradication of tuberculosis in children.

A positive tuberculin test in an adult means that the chest should be rayed and, if anything significant is found, the sputum, if obtainable, should be examined for tubercle bacilli. And in whom is such procedure more important than in the pregnant woman? And to whom is it more important than to her newly-born baby?

Objection may properly be raised that a strongly positive intradermal tuberculin test (perhaps 5-10 per cent more accurate than a patch test) could light up a quiescent process and result in harm to both mother and child. Where this is feared, the patch test should be performed.

What shall pediatricians and general practitioners do about it?

Periodic examination of all adults who come into contact with children.

As the demands of the armed forces reduce the supply of physicians, more and more work of this kind must be performed by the various public health agencies.

If any good can come to a people from adjustment to war, it should be its awakening to the value of preventive medicine. The greater need for preventive medical measures coincides with overwork and under supply of doctors. But that must not preclude putting into effect the relatively simple procedures necessary to keep the newly-born infant from contracting tuberculosis.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., Editor, Greenville, N. C.

MILESTONES IN NORTH CAROLINA PUBLIC HEALTH

(Continued from last month)

1938-During 1938, the extension and consolidation of health work in all departments of the State Board of Health was further accomplished. Two important events of this year were: First, the Zachary Smith Revnolds Foundation decided to donate its income from a fund of seven million dollars to the State Board of Health to aid in a long-time program of syphilis control. The initial donation from this fund by the officials of the foundation to the State Health Officer was \$100,000. Second, the passage by the United States Congress early in 1938 of the La Follette-Bulwinkle Bill, sponsored and carried through the lower House of the United States Congress by Representative A. L. Bulwinkle of Gastonia, N. C. Through the provision of this bill the state was able to receive during the year \$80,000 additional funds for work in syphilis control.

> The School of Public Health Administration of the State University had made such material progress that it became necessary on the first of September this year to employ an additional full-time professor in that department, and Dr. Roy Norton was appointed to the chair.

Under the persistent work of State Health Officer Reynolds a stationary exhibit has been erected in the large halls of the central building of the State Board of Health, at Raleigh, an exhibit which is an education in itself. It demonstrates the work of all the departments.

In March, 1938, the board received a report from a committee previously appointed to study pneumonia.

An important piece of field work which met with widespread appreciation throughout the state this year was a series of 34 health institutes for teachers and principals of schools in as many places representing the state.

The total expenditure for the State Board of Health for the fiscal year ending June 30th, 1928, were \$1,041,895.98. Of this amount \$353,953.55 was appropriated by the Legislature, \$226,297.57 by the United States Children's Bureau, \$337,914.39 by the United States Public Health Service, and \$123,730.47 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

Dr. Roy Norton, who for nearly two years had been assistant director in the Division of Preventive Medicine, resigned to accept the position of Professor of Public Health Administration in the School of Public Health in the University of North Carolina. Dr. Norton's resignation was effective September 1st.

Beginning with July 1st of this year, the following counties set up whole time health department organizations: Alamance, Alleghany, Ashe, Davie, Polk and Union; on September 1st, Catawba, and September 16th, Cleveland. On November 1st, Currituck became a member of the district health department with Dare and other counties.

(To be continued)

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

HISTORY-TAKING IN OPHTHALMIC PRACTICE

A CORRECT EVALUATION of the patient's subjective eye symptoms can be arrived at only through a thorough history and a careful analysis of what it portends. Such a history is basic and fundamental in this branch of medicine as in all others for the purpose of arriving at a correct diagnosis. A brief summary of the patient's subjective symp-

toms in his own words is only a beginning, and if no further investigation is made into this phase of the case the problem presented is, more often than otherwise, ineffectually handled. The history should cover the period from birth to the date of examination, and as the history taking proceeds pertinent facts may be brought out that necessitate a careful inquiry into the family history. An orderly procedure for helpful data should be divided into periods; that concerning birth and immediately thereafter, that of early childhood, adolescence, and so on. Pertinent data should be gathered and correlated in each period and the proper evaluation of the findings should be made as a basis for a probable diagnosis prior to the beginning of the eye examination. Then as the eye examination progresses other diagnostic points may be suggested therefrom which will require a more meticulous investigation of certain specific data already acquired in the general history. All of this is time-consuming and the busy oculist is prone to too briefly consider these fundamentals while he busies himself in the technical examination of the eye. To save time in this particular a capable and well trained office technician can be utilized for the general history-taking, and the data so gotten can be ready for the oculist to review as his examination begins. The writer utilizes this method in his work and finds it to be invaluable as an element in conserving time and in ferreting out the problems presented in each case.

To summarize briefly, the great majority of eye symptoms have for their etiology a psychic, nervous or physical background, and this applies as well in those with special diseases of the eye, refractive errors, and other anomalies of the visual function.

When the examination is completed the oculist should spend the time necessary to thoroughly and simply apprize the patient of his problem that he may have a working knowledge of how to handle it to his best advantage. Few patients have the faintest conception of what their eye symptoms mean. On the contrary they are saturated with false phobias concerning them which materially add to their distress.

DIFFICULTIES OF GETTING SANATORIUM TREAT-MENT FOR TUBERCULOSIS IN KENTUCKY

(R. T. Routt, Sonora, in Ky. Med. H., April)

It is embarrassing to be forced to tell a patient with tuberculosis, who is in need of specialized care, that Kentucky has made no provision for him to have sanatorium care. That situation arises with all patients who are unable to pay the minimum of \$1.85 per day for sanatorium care. With patients who are able and willing to pay the fee, the situation is very little changed, since we usually have to tell them that there "may be" a bed for them in six or eight months, provided they don't die in the meantime.

SOUTHERN MEDICINE & SURGERY

Official Organ

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Offerings for the pages of this Journal are requested and given careful consideration in each case. Manuscripts not found suitable for our use will not be returned unless author encloses postage.

As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

AGAIN—DOCTORS SHOULD TAKE AN ACTIVE INTEREST IN POLITICS

Throughout the nearly 20 years under its present editorship this journal has urged that doctors of medicine take an active interest and exert their influence in politics all the way from precinct to national. Politics is the science of government. That, in its practical application, there is so little of science in politics is due largely to the fact that scientific men concern themselves so little with it.

The contribution of Dr. A. W. Adson to this issue is an important statement of a lamentable failure on the part of doctors to exercise their influence in politics, and it should be a means of awakening us to the necessity for a *volte face* in this particular.

As he states, it is our duty to tell those in political administrative and legislative offices that we are familiar with the social and economic changes of our times and that we stand, and have always stood, ready to coöperate in the solution of all those problems which we are best qualified to solve.

Most, and perhaps all, states have laws requiring that state, county, or city pay for adequate medical care for those unable to pay for it themselves. If doctors had always insisted on enforcement of these laws there would have been no lack in this regard.

Dr. Adson well emphasizes that much more of a problem is that of studying medical care for those of the low-income group; and he suggests that much of the agitation for change of method of meeting this situation has come from insufficient knowledge on the part of the agitators of the earnest effort that doctors have made and are making to meet this situation.

His quotation from the decision of Justice Miller of the United States Court of Appeals of the District of Columbia, and his argument based thereon, should awaken all of us to the importance, not only of making our efforts and our views known to legislators, but to wielding our influence that all candidates for legislative office be sounded out on their knowledge of medical problems and their views as to methods of solution, and that only those having intelligent opinions and the honesty to advocate them be elected.

His conclusion that medical, dental and hospital associations should work together toward providing the best in health care for all the people is sound and practical. And it would be well to include the druggists in this group.

THE GENERAL PRACTITIONER CANNOT COOPERATE ALL BY HIMSELF

IN THE Department of Tuberculosis of this issue is reviewed another of those articles which places the responsibility for the continued prevalence of a deadly disease on the general practitioner and casts slurs on this much-abused individual.

We have no idea that this writer in the Bulletin of the National Tuberculosis Association has any conscious intention of decrying the practitioner. That is the most discouraging feature of the case. Our unintentional expressions reveal our thought much more than do those we make intentionally.

This specialist is quite mistaken in saving "few general practitioners are interested in the treatment of tuberculous cases principally because they do not come into contact with a sufficient number of them to learn to treat them with any degree of success." The reasons why general practitioners do not show as much interest in the diagnosis and the treatment as the tuberculosis specialists say they should are several. Prominent among them is the public having been taught, largely by the specialists, that the g, p, doesn't know anything about the disease, its diagnosis or its treatment. One of the means by which this impression is given to the public is by failure to keep the g. p. informed of the progress of his (at least he was once his) patient while in the sanatorium. Another is by the specialist giving the patient a lot of instructions as to what he shall do when he gets home and when he shall come back for a "check" (sic), instead of advising the patient to go back to the doctor who sent him in and, at the same time, mailing the doctor a detailed final report, with outline of suggestions as to future care.

The general practitioner can hardly be expected to keep up a very keen interest in his patients who develop tuberculosis, when the great majority of tuberculosis specialists' attitude toward the family doctor is what it now is.

"Another important duty to the general practitioner is his coöperation with the sanatorium staff." It is well to bear in mind the fact that it takes two to coöperate. The prefix, co-, means with or together.

INFORMATION HELPFUL IN THE MAN-AGEMENT OF PATIENTS WITH CARDIOVASCULAR DISEASE

FOR OUR PATIENTS in the advanced stages of disease of the cardiovascular system we can do so little, that welcome to all of us is every article from a rehable source which contains information on how we may recognize such disease in the early stage.

Two such articles, just off the press, are distinctly heartening.

The first¹ treats of hypertensive disease in such a positive way as to enable us to tell some such patients confidently that in their cases certain signs generally regarded as ominous do not necessarily mean that their lives will be greatly abbreviated, and some others that it is the part of wisdom to set their affairs in order.

It is now generally accepted that the primary disturbance which results in arterial hypertension is a generalized reduction in caliber of the lumens of the arterioles and that in the early stages of the disease this is the result of hypertonicity or arteriolar spasm. How helpful and comforting it is to patient and doctor to be assured that during the early course of essential hypertension the hypertonicity and partial spasm of the arterioles are reversible processes, that the danger to patients who have hypertension does not lie in the exact levels of the blood pressure, that there is no critical level above which the prognosis is necessarily bad or below which it is good. Plainly we are told that much depends upon the fundamental strength of the myocardium and the larger arteries and their ability to withstand the increased strain, that patients who have strong hearts and strong blood-vessels may tolerate systolic blood pressure well in excess of 200 mm. for many years and even live out the normal expectancy of life, whereas others who have had elevation of systolic pressures to only 170 or 180 for short periods become afflicted by vascular accidents or congestive heart failure which terminate their lives

The gravest of all signs, from a prognostic standpoint, are edema of the optic disks and renal insufficiency—signs, we are reminded, readily elicitable. The presence of either of these two conditions indicates that a progressive, severe form of hypertension has developed.

It is of great practical usefulness to know that patients who have hypertension uncomplicated by congestive heart failure, coronary occlusion, renal insufficiency or cerebral vascular accidents are not increased risks for anesthesia of any type, that shock is less likely to develop in hypertensive patients after anesthesia or after surgery than it is in nonhypertensive patients. The addition of epinephrine to solutions used for local anesthesia for hypertensive patients is advised against. To patients who have hypertension and who have had coronary thrombosis or cerebral vascular accidents, the risk during and after anesthesia is only slightly increased, the reason being that these patients have already manifested that they have degenerative lesions in the large arteries and that these lesions

^{1.} The Pathologic Changes Resulting From Hypertension, N. W. Barker, Rochester, Minn., in Anes. & Analg., Mar. Apr.

may be the starting-point for thrombosis if the blood pressure is lowered markedly for many hours. The actual increased risk in these cases, however, is not great. For patients who have renal insufficiency or congestive heart failure the risk of taking an anesthetic and being subjected to a surgical operation is considerably greater than for the patient not so afflicted.

The second article² gives the doctor something tangible on which to base a positive statement to his patients who have not yet shown what we usually think of as symptoms and signs warranting a diagnosis of heart disease.

Ready physical exhaustion, nerovusness, insomnia, dizziness, cough, fainting, anorexia and pain in the legs are usually present in early cardiac weakness. Without such authoritative assurance few of us would regard pain in the extremities as indicative of early heart disease, as establishing the fact that fault in the blood supply to the peripheral muscles has developed. We are told to consider particularly the initial symptom and order of appearance of symptoms because these are the foundation stones upon which the diagnosis rests. True, by the stethoscope only an impression of early disordered heart function may be gained and the murmurs and other extraneous sounds which may develop are difficult of evaluation. Certain laboratory tests-some generaly familiar, some not so familiar-are highly valued.

By means of the teleorentgenogram we have learned to associate the boot-shaped heart and the enlarged pulmonary conus with rheumatic heart disease, the pear-shaped heart with pericardial effusion and the heart of hypertension. It also has value in showing small degrees of enlargement in early heart disease and change in the size of the aorta. By the use of the fluoroscope one may note the variation in size of the heart, its contractility and the size of the large blood vessels in the chest. The electrocardiograph is of great value in the diagnosis of acute coronary occlusion or advanced myocarditis, but in instances of early myocardial disease the changes may be insignificant. Slurring of the QRS complexes an delevation or depression of the ST segment may be found in early degeneration of the heart muscle.

Kountz is confident that the kymogram is a diagnostic means to which too little attention has been paid. It is a röntgen-ray film exposed through a grill; during the exposure the film moves downward, thereby recording the movement of the heart shadow, thus the systolic and diastolic outline may be noted. The contractility of the heart is recorded by means of crests and troughs, the crest rep-

resenting the diastolic period and the trough the systolic. At times the crests and troughs may be absent in one area indicating that the area is not functioning well due to damage of a blood-vessel; there may be a general reduction of the troughs and crests when general myocardial disease is present.

A new instrument found of aid in the diagnosis of disordered function of the heart is the vibrocardiograph, an instrument which records all cardiac vibrations and thus gives a clue under proper circumstances to heart muscle weakness.

As to treatment this clinician is neither vague nor uncertain:

The treatment of heart disease in its early stages must be directed to the treatment of the underlying cause of degeneration. Vitamin deficiency should be sought out and remedied. Mild hypoinsulinism, which does not reach the proportion of diabetes, should receive attention through diet or the administration of small doses of protamine zinc insulin. Hypothyroidism frequently leads to acute vascular disease because of its tendency to cause degeneration of the smooth and cardiac muscle. A low metabolism status in hypothyroid function should be corrected. Muscle degeneration is favored by long-standing anemia, low hemoglobin and low red cell count warrant attention.

Two common points of infection to be considered are the teeth and the urinary system. The need for discontinuing smoking and limiting alcohol intake is emphasized. Individuals past middle life whose diets are low in fat remain in better general health than do those whose diets are high in fat. Increase in the cholesterol content of the blood and occasionally increased blood sugar may be benefited by a diet low in butter, cream, cheese and eggs.

We wonder if there may be an intimate connection between too-much emphasis on these food substances in the past few decades and the great increase in the number of deaths from heart disease.

HOW WE CAN REDUCE THE NUMBER OF DEATHS FROM CANCER OF THE UTER-INE CERVIX IN OUR OWN PRACTICE

ENTHUSIASTS, with little or no experience in general practice (some of them, indeed, not doctors of medicine), in talking and writing about cancer, leave out of consideration many essential factors of the problem. They assume that our patients will do just what we tell them to do. As to preventive measures, the majority will not. However, a considerable minority can be induced to follow out the practical, sensible plan here outlined if we

^{2.} Factors of Recognition and Treatment of Early Degenerative Heart Disease, Wm. B. Kountz, St. Louis, in II. Mo. State Med. Assn., April.

^{1.} J. A. Campbell, Indianapolis, in Jl. Ind. State Med. Assn., April.

will but keep continually dinning it into their ears.

Cancer of the uterus is the commonest form of malignant disease arising in females. It represents one-quarter of all malignant tumors occurring in women, and in 1938 it accounted for some 16,300 deaths in the United States. In the total number of cancer deaths it is exceeded only by cancer of the stomach; 90 per cent of carcinoma of the uterus arises in the cervical portion.

Our end results will show great improvement if we are able to establish a diagnosis before symptoms are evident.

To do this patients must be instructed to report for careful pelvic examination at regular intervals following parturition or miscarriage, and at twice yearly intervals after their fortieth year. As a prophylactic measure, cure of all inflammatory lesions of the cervix is imperative. The use of local repair and cauterization on any postpartum cervix which shows erosion, eversion or cystic changes will prevent the development of many cancers in later life.

ETHER THE ANESTHETIC IN CASE THE PATIENT HAVE (OR HAVE NOT) HEART DISEASE

A GREAT PLENTY there is of problems in medicine and surgery in a state of great unsatisfactoriness, crying loudly for improvement. The problem of general anesthesia has been satisfactorily solved for a half-century or so. That is, except for those eager to try some new thing, those to whom all change is "progress."

Medical investigators of talent and energy, favorably situated for research having some reasonable chance of practical application to some in the way of saving human life and making it less painful, can find ready at hand scores of needs far greater than that for a better anesthetic.

A lot of sound medicine has come out of New Orleans. Wirth¹ contributes another bit of first-rate importance. Hear him.

Patients with congestive heart failure regardless of etiology or degree, coronary arteriosclerosis with or without angina pectoris, recent coronary occlusion with myocardial infarction, bundle-branch block, complete heart block, persistent pulsus alternans and syphilitic aortic disease all are greatly increased surgical risks. If the operation can be postponed, the congestive failure may be treated and improved. At least three months should elapse after a coronary occlusion with infarction. It is difficult or impossible to determine the best time to operate upon a patient with angina pectoris. The same is true of patients with evidence of coronary

arteriosclerosis without angina, but showing bundle-branch block or complete heart block in the electrocardiogram.

The presence of other cardiac abnormalities does not necessarily increase the surgical risk. With evidence of hypertension, chronic valvular disease of rheumatic, congenital or arteriosclerotic origin, and cardiac arrhythmias such as auricular fibrillation, auricular flutter of premature contractions, the patient may be operated upon without much increased risk.

Preoperative preparation is important. Digitalis is indicated for failure and to control auricular fibrillation or flutter. It should not be used to tone up cardiac muscle or in an effort to prevent a post-operative fall in blood pressure.

The Trendelenburg position should be avoided since it increases pressure on the heart and decreases pulmonary ventilation. Asphyxia, shock and hemorrhage should be carefully guarded against. When paroxysmal tachycardia, auricular fibrillation, or flutter occurs during or after the operation it should be controlled by carotid sinus stimulation, quinidine or digitalis as indicated. Postoperatively the patients should be watched carefully by a competent observer for shock or other complications.

If there are contraindications to inhalation anesthesia, such as pulmonary disease or diabetes, local anesthesia may be useful. Spinal anesthesia is contraindicated in individuals who show evidence of cardiovascular disease.

Cyclopropane is contraindicated in all cardiovascular disease.

Ether remains the best anesthetic for use in patients with heart disease. By the closed-system methods a high oxygen concentration is possible. Arrhythmias are more rare during its use. The drug, however, is contraindicated in cases of acidosis and pulmonary disease.

MEDICAL COLLEGE OF VIRGINIA LUNCHEON FOR MEETING STATE MEDICAL SOCIETY

A luncheon for Alumni of the Medical College of Virginia will be held at the Sir Walter Hotel in Raleigh, on Tuesday of the meeting of the Medical Society of the State of North Carolina. Personal letters are being written urging a large attendance. The Medical College of Virginia has probably more alumni in this state than any other medical school and we should make an excellent showing at the State meetings. Dr. B. C. Willis, of Rocky Mount, is actively promoting the luncheon, and there is every promise of a large and enthusiastic attendance.

J. W. R. Wirth, New Orleans, in N. O. Med. & Surg. II.,

NEWS

RESOLUTIONS ON THE DEATH OF DR. FONSO BUTLER WATKINS

When a faithful servant of humanity has been connected with an institution for thirty-three years, and has been its head since 1938, his removal by death leaves a vacancy that cannot easily be filled. Such a one was Dr. Fonso Butler Watkins, who closed his long and faithful work for the State Hospital at Morganton on March 8th, 1943. The Directors of this Hospital in session assembled present through their committee the following tribute:

RESOLVED, That the State Hospital in the death of Dr. Watkins has lost a valuable and efficient physician, a man in whom were linked simplicity and scientific knowledge, a genial personality, and a friend ever ready to serve; be

it further

RESOLVED, That North Carolina has lost a psychiatrist who was recognized not only in this State as President of the North Carolina Neuro-Psychiatric Society, but also in many other States through the valuable papers given on this subject. His interest as a physician was shown by his membership in the County and State Medical Societies, the Tri-State Medical Association, the American Medical Association, the American Psychiatric Association, and as a Fellow of the American College of Physicians. His scholarship was evidenced by his membership in the Phi Beta Kappa Society; therefore be it further

RESOLVED, That a copy of these resolutions be sent to the family of Dr. Watkins, be spread upon the minutes of the Board of Directors and that a copy be given also to the press and to the Medical Journals.

GUY S. KIRBY.
J. L. SNYDER.
C. C. POINDENTER,
REX GOSS,
MARGARET P. BAULEY,
H. L. RIDDLE,
J. H. BEALL.

Wife of Chinese Commander-in-Chief Awarded Dergee The Hahnemann Medical College of Philadelphia conferred the LL.D. degree on Madame Chiang Kai-shek on March 25th. The honor was accepted on the great lady's

behalf by the Chinese Ambassador to the United States.

1943 MEETING OF THE SOUTHERN MEDICAL
ASSOCIATION

(Editorial, Southern Medical Journal) ...

At the Richmond meeting the Council voted that unless conditions not then evident should occur, the Association would convene at the usual time in 1943, the Executive Committee to select the place in the spring.

Detailed plans for the 1943 meeting will probably be formulated in the next few weeks.

PORTRAIT OF DR. MILLER UNVEILED

A portrait of Dr. Roshier W. Miller, who celebrated his 15 anniversary as chairman of the Richmond School Board this month, was unveiled at the regular meeting of the board on February 23rd.

His grandson, Roshier E. Miller, unveiled the likeness, which hangs on the boardroom wall. Superintendent Jesse H. Binford made the address for the occasion, and Clyde Ratcliffe, Jr., presided.

The likeness was purchased by members of the school board following a motion introduced by Mr. Ratcliffe.

Dr. Miller has been a member of the school board for 23 years, and has served as its chairman continuously since 1928.

MECKLENBURG COUNTY MEDICAL SOCIETY, Medical Library, Charlotte, N. C., April 6th, 8 p. m. Program:

Cardio-Vascular Hypertension, Dr. Luther Kelly; Renal Aspects of Hypertension, Dr. Paul Kimmelstiel; Peptic Ulcer, motion picture with color and sound.

Meeting of the Staff of the McGuire Clinic on the evening of March 16th, 1943, in the Library of the Clinic Building.

The program subject was Virus Disease:

The Biological Properties of the Viruses, Dr. J. D. Reid; The Chemistry of the Viruses, Dr. Sidney S. Negus; Virus Pneumonia by Contrast with Other Types, Dr. J. H. Smith; discussion opened by Dr. Harry Walker.

Dr. C. T. Bullock, for the past twelve years surgeon at the State Hospital, Columbia, S. C., has resigned his position there and is now in Mullins, S. C., as chief surgeon at the James L. Martin Hospital.

Dr. A. T. Moore, of Columbia, S. C., has returned from Rochester, Minn., and Chicago. Dr. Moore had an exhibit at the meeting of the American Academy of Orthopedic Surgeons in Chicago.

Dr. Geo. A. Welchons announces the opening of his offices, 805 Professional Building. Practice limited to Internal Medicine with special interest in diseases of the chest. Dr. Welchons was until recently at the head of Pine Camp, the Tuberculosis Hospital of the City of Richmond.

DR. A. F. BURNSIDE OF COlumbia, DR. DOUGLAS JENNINGS OF BENNETSVILLE, DR. L. M. STOKES OF WAITERONAL COLONEL E. H. BARNWELL OF MARTIN'S Point were elected to the Board of Trustees of the Medical College of the State of South Carolina by the vote of the General Assembly February 3rd, 1943. They wll serve for four years.

Dr. George H. Noble, of Atlanta, has taken up the duties of his new appointment to the Atlantic Coast Line Hospital at Rocky Mount, N. C. Dr. Noble was graduated from the College of Physicians and Surgeons of Columbia University, New York, in 1917 and since his graduation has been on the surgical staff of Grady Hospital in Atlanta.

Dr. F. K. Shealy, Clinton, S. C., was elected president of the Laurens (S. C.) County Medical Society at a recent meeting of the Society. Dr. D. O. Rhame of Clinton was elected vice-president and Dr. J. L. Fennel of Waterloo (re-elected) secretary-treasurer.

Dr. J. W. Corbett, Camden, S. C., is the recipient from the American Legion Post of his town of a distinguished service award for exceptional service to his community.

Dr. John Witherspoon Ervin, of Morganton, has been appointed physician of Burke County in succession to Dr. Edith Goodwin Barbour, resigned.

Dr. James F. McGimsey, Jr., recent graduate in medicine of Harvard University, has begun his interneship in the Pennsylvania Hospital in Philadelphia.

DR. WM. WESTON, JR., has been elected Chief of Staff at the Columbia (S. C.) Hospital for this year.

Dr. James McLeod, Florence, S. C., recently returned from Baltimore where he had a disc removed by Dr. Walter Dandy. DR. W.M. A. BOYD, president of the Columbia (S. C.) Medical Society, addressed a group of medical officers at Fort Jackson on February 18th on Fractures.

Dr. Hugh Smith, Greenville, has been promoted to the rank of Lieutenant Colonel.

MARRIED

Miss Nancy Pearis Edgar, of Charlottesville, and Dr. John Randolph Kight, of the University of Virginia, March 6th.

Miss Martha Broaddus Ligon, of Clarksville, Va., and Dr. Matthew Hill Grimmett III, of Baltimore, March 20th.

Miss Audrey Owen, of Roanoke, Va., and Dr. Ashby Pelham Hill, senior physician, State Epileptic Colony, Lynchburg, March 27th.

Dr. Pierre F. LaBrode, Jr., of Columbia was married March 2th to Miss Virginia Adams of Charleston. Dr. La-Brode is a lieutenant in the Medical Corps of the United States Navy and is stationed at Memphis, Tenn.

DIED

Dr. John O'Brien, Jr., a veteran of World War I, died April 2nd, after a brief illness at the Veterans' Hospital at Keccoughtan. Dr. O'Brien was born in Manchester, now South Richmond, Va. As a youth he was a pupil at the local schools and later pursued his professional studies at the Medical College of Virginia where he was graduated with the degree M.D.

Returning to this country after World War I, he practiced medicine for 20 years in West Virginia, later retiring on account of ill health and making his home in Elizabeth City County.

Dr. George Fletcher Bullard, Elizabethtown, N. C., died January 17th at the Veterans Administrative Facility, Fayetteville, of carcinoma.

Dr. William F. Kellam, 63, Eastern Shore physician and banker, died at his home at Onley, Va., March 30th. He was a former member of the State Commission of Fisheries.

A graduate of Randolph-Macon College and Johns Hopkins Medical School, he had a wide practice covering the lower half of Accomac County. At the time of his death he was president and a director of the Farmers and Merchants National Bank of Onley, a director of the Eastern Shore Public Service Company and a director of the Eastern Shore of Virginia Insurance Company.

RUMORS THAT PABLUM IS OFF THE MARKET UNFOUNDED Pabena, the new Pablum-like precooked oat cereal, does not replace Pablum. Pabena is now being marketed in addition to Pablum.

Pabena offers substantially all of the nutritional qualities of Pablum and all of its advantages of ease of preparation, convenience and economy. The base of Pabena is oatmeal (85%) which gives it a fine flavor and offers variety to the diet.

Would you like some of both for use in your own family?

Mead Johnson & Company, Evansville, Ind., U. S. A.

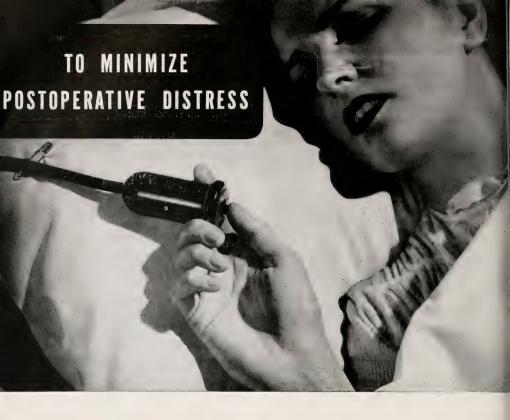


160,000 Americans die of cancer annually. Authorities say many of these deaths could be avoided.

Help us spread the knowledge that cancer can, in many cases, be cured. Enlist today in your local unit of the Women's Field Army.

In the Metropolitan Area, address the New York City Cancer Committee, 130 East 66th Street.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER 350 Madison Avenue, New York, N.Y.



The routine use of Prostigmin Methylsulfate 'Roche,' 1:4000 provides a convenient and effective means of preventing postoperative abdominal distention and urinary retention. Since many hospital staffs have been drastically reduced, every precaution which can be taken to obviate troublesome postoperative procedures is of major importance. Any measure that affords smoother convalescence for the patient and reduces the work of the staff, is a doubly valuable expedient. To minimize discomfort due to abdominal or bladder atony inject 1 cc of Prostigmin (1:4000 solution) intramuscularly immediately after operation. Follow with 5 similar 1-cc injections at 2-hour intervals. Additional injections may be given if necessary. Hoffmann-La Roche, Inc. Roche Park Nutley New Jersey.

PROSTIGMIN Roche

OF INTEREST TO DOCTORS

INTERNATIONAL COLLEGE OF SURGEONS TO MEET IN JUNE

The Fourth International Assembly of the International College of Surgeons, Dr. Fred H. Albee, President, will be held on June 14th-16th at the Waldorf Astoria Hotel in New York City. The program which, devoted to war surgery and rehabilitation, will be followed with great interest throughout the nation and elsewhere by those directly connected with medicine and by the lay public.

Delegations made up of prominent surgeons from the United Nations and from other countries are to attend. The United Nations representatives will give examples of progress under battle conditions by their respective countries.

Eminent surgeons in Government military and civilian executive offices have voiced approval of the Assembly, which also has the cooperation of the Latin American Chapters.

Dr. Manuel A. Manzanilla of Mexico, and Professor Herman de las Casas, Dean of the University of Caracas, Venezuela, Chairman of the Inter-American Exchange training activities, have been designated Chairmen of the Program Coördination for Central and South Americas. Dr. Rudolph Nissen, at present in New York City, will act for Europe.

The Rehabilitation Committee is composed of Drs. Fred H. Albee of New York, William D. Ryan of Detroit, and Custus Lee Hall of Washington. Dr. William S. Bainbridge of New York is Chairman of the Military Affairs Committee. The Program Committee has as its Chairman Dr. A. A. Berg of New York with Dr. Gustave Aufricht as Secretary, and represented by members of the College in Philadelphia, Plainfield, N. J.; Columbus, Ohio; Denver, Washington, and Rochester, Minn.

Dr. Charles Phillips of New York is Chairman of the Arrangements Committee; Dr. Chester A. Peake, Brooklyn, Chairman of the Exhibit Committee; and Dr. Milton Bodenheimer, New York, Chairman of the Publicity Committee.

Serving on the Publicity Committee with Dr. Bodenheimer are Dr. Max Thorek, Chicago, and Dr. Edwin A. Griffin, Brooklyn.

Dr. Thorek is the International Executive Secretary.



MEDICAL COLLEGE OF VIRGINIA

The College closed the 105th session on March 20th. The Commencement address was made by Honorable Colgate W. Darden, Jr., Governor of Virginia. The graduating class numbered 149; 68 in medicine, 25 in dentistry, 18 in pharmacy, and 38 in nursing.

The honorary degree of Doctor of Letters was conferred upon Dr. Samuel Chiles Mitchell, professor of history, University of Richmond. Dr. Mitchell was president of the Medical College of Virginia for the academic session 1913-14 when the University College of Medicine merged with the Medical Colege of Virginia.

Gifts for the current session, totaling \$118,272.27, were reported.

The 106th session of the College started on April 6th. The College is now on an accelerated program, graduating two classes a year in medicine and dentistry. Three classes will be admitted to the school of nursing, one in July and another in the fall, a new class having entered the first of February.

The 14th annual Stuart McGuire lectures and post-graduate clinics were held February 25th and 26th. Dr. Philip D. Wilson, Clinical Professor of Orthopedic Surgery, Columbia University College of Physicians and Surgeons, gave the two McGuire lectures, the first on The Treatment of War Injuries and the second on Amputations in War Time. Dr. Emil J. C. Hildenbrand, Associate Professor of Clinical Surgery, Georgetown Medical School, took part in the symposium on low-back pain; others participating were members of the college faculty.

In the Symposium on Nutrition at the College March 24th-26th, Dr. Virgil P. Sydenstricker, Professor of Medicine, University of Georgia, gave two lectures, the first on Rationing as It Affects the Nutrition of the Public and the second on War-Time Nutrition in England. Dr. Sydenstricker has recently returned from England. This symposium was attended by many interested in nutrition from the state and nation. Others who participated: Dr. W. H. Sebrell, Surgeon, United States Public Health Service; Dr. Lydia J. Roberts, Chairman, Department of Home Economics, University of Chicago; Brigadier-Geneal J. Fulmer Bright, Director of Office of Price Administration for Virginia; and Miss Bertlyn Bosley, Research Student in Nutrition, Teachers College, Columbia University.

In 1893 the graduating class in Medicine numbered 22. Of that number 14 are still in practice and eight were in attendance for the finals March 18th-20th.

Representing the 1893 class were Drs. Charles A. Easley, Blairs; A. E. Turman, Richmond; J. J. Anderson, Richmond; L. P. Michaels, Route 2, Richmond; T. W. Dew, Fredericksburg; Garland Carter, Boydton; N. P. Snead, Cartersville, and G. Craig Eggleston, Amelia.

LOFFLER'S SYNDROME

Cl. H. Smith, Richmond, in Sov. Med. Jl., April)

The symptom-complex is clear-cut and easily kept in mind.

Löffler first described the condition in 1931. By 1936 he had observed 51 cases. On x-ray examination the lungs show shadows of various size and shape, in any location, single or multiple, unilateral or bilateral, disappearing usually in three to eight days, clearing in one area and appearing in another. There is definite eosinophilia. The patient does not seem very ill.

To page 196

send the cigarette that's the

FAVORITE IN THE ARMED FORCES*

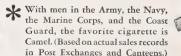
RIEND or relative—send him cigarettes—the first choice among officers and in the ranks—the gift they prefer above all others. The brand? Camels—by actual survey*, first choice of American men in war.

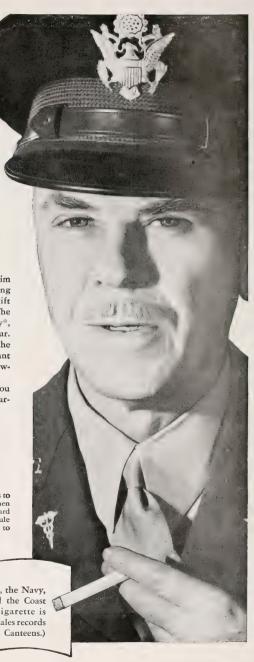
Slow-burning Camels have the features that service smokers want—extra mildness, smooth mellowness, better flavor—every puff.

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REMEMBER, you can still send Camels to Army personnel in the U. S., and to men in the Navy, Marines, or Coast Guard wherever they are. The Post Office rule against mailing packages applies only to those sent to the overseas Army.





BOOKS

DISEASES OF THE LIVER, GALLBLADDER AND BILE DUCTS, by S. S. LICHTMAN, M.D., F.A.C.P., Adjunct Physician, Mount Sinai Hospital, Assistant in Post-Graduate Medical Instruction, University Extension, Columbia University. Octavo, 906 pages, illustrated with 122 engravings and a colored plate. Published October, 1942. Lea & Febiger, Washington Square, Philadelphia. Buckram. \$11.00 net.

Contents

Part I. Diseases of the Liver

The Structure of the Liver. Physiology of the Liver. Exogenous Liver Poisons. The Role of Nutrition and Diet in Liver Function and Damage. The Pathogenesis and Pathology of Jaundice. Pathological Changes in the Liver .The Symptomatology of Liver Disease. Liver Function Tests and Procedures-Interpretation of Results. Etiological Factors in Liver Damage. Acute and Subacute Inflammatory Diseases of the Liver. Toxic Jaundice. Acute Diffuse Liver Necrosis. Intrahepatic Obstructive Jaundice. Cirrhosis of the Liver. Hemolytic Jaundice. New Growths of the Liver. Echinococcus Disease of the Liver. Liver Abscess. The Liver in Hypertension. The Liver in Pregnancy. Metabolic Hepatomegalies. The Liver in Heart Disease. Diseases of the Blood Vessels of the Liver. Specific Infections of the Liver. Hepatic Disease and the Hematopoietic Apparatus, Differential Diagnosis - General Considerations. The Treatment of Liver Disease.

Part II. Diseases of the Biliary Passages

Anatomic Features. Physiology of the Extrahepatic Biliary Tract. Diseases of the Gallbladder. Diseases of the Extrahepatic Ducts. Diagnostic Procedures in Extrahepatic Biliary Tract Disease. The Treatment of Biliary Tract Disease.

In this book are set forth the results of ten years of careful clinical and laboratory study. Structure and normal functions are given in sufficient detail and with special reference to making disease conditions easily understandable. The discussion of cirrhosis and cholecystic disease with stone is particularly helpful.

SO YOU FEEL SLUGGISH TODAY: The Causes and Treatment of Constipation, by HARRY GAUSS, M.D., Assistant Professor of Medicine, University of Colorado. *The Christopher Publishing House*, 1140 Columbus Avenue, Boston, Mass. 1942. \$3.00.

The author tells us that there are at least a score of causes for this ailment, and that treating a case of constipation entails a program which starts on rising in the morning and ends with retiring at night. Among the causes listed are faulty dietary and other habits, too little fluid and exercise, fatigue, cathartics and enemas, rectal disorders, pelvic tumors, abdommal operations, gallbladder and

liver disease, colon disease, glandular diseases, allergy, confining conditions, drugs and industrial poisons, and age.

The illustrations are instructive and entertaining.

A good book for doctors and patients.

DISEASES OF THE BREAST, by CHARLES F. GESCHICKTER, M.A., M.D., Lieut.-Commander M. C., U. S. Naval Reserve, Director of the Francis P. Garvan Research Laboratory, Pathologist, St. Agnes Hospital, Baltimore. With a section on Treatment in collaboration wth Murray M. Copeland, A.B., M.D., F.A.C.S., Instructor in Surgery, Johns Hopkins Medical School. 593 illustrations. J. B. Lippincott Company, E. Washington Square, Philadelphia; London; Montreal. 1943. \$10.00.

No one is better qualified to write on this important subject. A knowledge of the fundamentals of anatomy, physiology and pathology qualifies the author to speak with authority on the basic features; and his clinical experience makes what he has to say on diagnosis, prognosis and treatment the very last word.

Every practitioner of Medicine needs a book to guide him between the two errors—one of suspecting every lumpy breast of being cancerous and so inspiring cancer phobia; and the other of neglecting all and waiting to see what will turn up. This book supplies information as to the proper attitude in general and the means of meeting the exigencies in each case.

GYNECOLOGY With a Section on FEMALE UROLOGY, by Lawrence R. Wharton, Ph.B., M.D., Associate in Gynecology, the Johns Hopkins Medical School. 444 illustrations. W. B. Saunders Company, W. Washington Square, Philadelphia; Lundon 1943. \$10.00

The author undertakes to set forth the main facts about gynecology, to distinguish accurately between facts and fiction, to stress established principles and, in discussing unsettled problems to give consideration to all representative opinions. He recognizes the changes in the practice of this specialty in the last few years, indeed he has had a large part in bringing these changes about. He has written a book which fairly evaluates the part of medicine and the part of surgery in the practice of gynecology, and which gives authoritative information for the management of practically every gynecological case which one is liable to encounter.

MILITARY SURGICAL MANUALS VOLUME VI NEUROSURGERY AND THORNET SURGERYA prepa.ced and edited by the Subcommittee on Neurosurgery and Thoracic Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. 310 pages with 103 illustrations. W. B. Saunders Company, Philadelphia and London, 1943, \$2,50.

Neurosurgery

The manual is put out to supply particulars regarding established methods of treatment in the special field of gunshot and shell wounds of the

nervous system. In addition, the ordinary types of head and spinal injuries are considered, and there is a chapter on the infectious complications of skull and spinal injuries.

Thoracic Surgery

The matter is limited to special problems presented by wounds and injuries of the thorax; omitted are the general principles of treatment applicable to wounds and their treatment.

The whole volume is, as is true of all others of this series, written with the chief object of meeting the needs of medical officers in the field.

THE MARCH OF MEDICINE: The New York Academy of Medicine Lectures to the Laity (1942). Columbia University Press, Morningside Heights, New York City. 1943, \$2,50,

The subjects are:

Tuberculosis: The Known and the Unknown

The Brain and the Mind

The Freudian Epoch

Genius, Giftedness and Growth

· The History of the B-Vitamins

The Newer Knowledge of Nutrition

Hardly could a list been made up more interesting or more important for lay study. Here is matter for presentation by intelligent women, to intelligent women, in meetings of women's clubs, book clubs, parent-teachers' associations, and so on.

PSYCHOLOGY YOU CAN USE, by WILLIAM H. ROB-ERTS. Harcourt, Grace & Company, 383 Madison Avenue, New York Cty. 1943, \$2.00.

In the science of the thought processes all of us have an interest, whether or not we realize it. Most formal books on psychology so abound in obscure terms as to discourage the average reader; and not a few of such books give the impression to the thoughtful reader who can work out the etymology of the terms used that if their writers knew what they were trying to set down they could and would write clearly and plainly.

The author of the book under review knows what he is writing about and what he has written will amply repay the intelligent lay reader.

THE 1942 YEAR BOOKS

The Year Book Publishers, Inc., 304 S. Dearborn Street, Chicago.

DERMATOLOGY AND SYPHILOLOGY, edited by FRED WISE, M.D., Clinical Professor of Dermatology and Syphilology, New York Postgraduate Medical School, and MARION B. SULZBERGER, M.D., Assistant Clinical Professor of Dermatology and Syphilology, New York Postgraduate Medical School, \$3.00.

An excellent review and criticism of the worthwhile writings on dermatology and syphilis in 1942.

NEUROLOGY, PSYCHIATRY AND ENDOCRINOLOGY:

Neurology, edited by HANS H. REESE, M.D., Professor of Neurology and Psychiatry, University of Wisconsin

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Medical School:

PSYCHLATRY, edited by NOLAN D. C. LEWIS, M.D., Director New York State Psychiatric Institute and Hospital; Professor of Psychiatry, Columbia University;

Endocrinology, edited by Elmer L. Servinghaus, M.D., Professor of Medicine, University of Wisconsin Medical

School. \$3.00.

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ed, up-to-the-minute.

A few of the questions:

Of 4 vasodilators introduced recently for treatment of migraine, which is most likely to give relief? For the answer see pages 62-66.

What are "17-kerosteroids," why are they so named, and what is their significance in clinical

practice? See page 594.

Under what condition should pregnancy be terminated because of mental disorders? See page

Which of these 3 estrogens used to treat the menopausal syndrome — diethylstilbestrol, hexestrol, or octofollin—has the lowest toxicity? See page 633.

How do convulsions caused by brain tumors differ from other types of seizures? See page 74.

In treating severe diabetes with protamine insulin, which is preferable, persistent glycosuria or complete avoidance of reactions? See page 573.

What 4 mechanisms associated with rheumatic heart disease may produce epileptiform seizures? See page 411.

Which type of meningitis has a gradual, and which types have abrupt, onset? See page 138.

What is an inexpensive, efficient substitute for large doses of vitamin D in controlling serum calcium and phosphorus levels during treatment of parathyroid tetany? See page 543.

When in the course of amphetamine therapy of juvenile obesity does most weight-loss occur, and what is the significance of that fact? See page 485.

Among known virus infections of the nervous system, which is the only one in which there is reason to expect a therapeutic effect from the sulfonamides? See page 138.

Of 6 basic mechanisms of headache, which 4 suggest brain tumors? See page 61.

GENERAL SURGERY, edited by EVARTS A. GRAHAM, A.B., M.D., Professor of Surgery, Washington University School of Medicine. \$3.00.

From the 10-minute quiz:

What is the one safe inhalation anesthesia for patients with acute respiratory diseases? For the answer turn to page 18.

There are 7 rules for determining the level of amputation of fingers: how many can you give? See page 779.

How is tulle gras (easily made in any ward) used in treating soft tissue injuries? See page 105.

What important relationship between typhoid inoculation and acute appendicitis has been discovered recently? See page 599.

In appendiceal peritonitis, what is the most unfavorable prognostic indication?—the most ominous objective sign? See page 608.

Can position during sleep contribute to liver or gallbladder disease? See page 687.

What is the best method of combating shock or hemorrhage in war wounded?—in victims of burns? See page 97.

What is the special advantage of cellophane dressing, besides visibility? See page 67.

What blood examination is especially valuable

for determining promptly whether intra bdominal hemorrhage is continuing? See page 478.

How much iodine intravenously is indicated to

obtain rapid remission of hyperthyroid toxicity? See page 328.

What step in dissection of an inguinal hernia facilitates later formation of a sufficiently small internal ring? See page 647.

Transfusion with what material (not 50 per cent glucose!) is indicated in intracranial hypertension? See page 240.

What strength solution of lactose should be used to prevent odor in the closed cast treatment of compound fractures, and how is it applied? Page 277.

GENERAL THERAPEUTICS, edited by OSCAR W. BETHEA, Ph.M., M.D., F.A.C.P., Professor of Clinical Medicine, Tulane Universty School of Medicne. \$3.00.

Some of the questions:

Which of the sulfonamides is authoritatively recommended for topical application in the first-aid treatment of burns, and what substitute is best if that is not available? For the answer see page 112.

On the average, how much time is required to regenerate 500 c.c. of blood in a donor? See page 224.

How often is the type of arachnidism commonest in the U.S. A. fatal; is there a specific for it? See page 194.

What is "interrupted stillbestrol treatment" and why is it employed? See page 265.

Why may sudden or too rapid warming of a burned patient in shock prove fatal? See page 113.

For what disease is pitressin tannate in oil used, and how? What are its advantages over the alternative therapy? See page 284.

Under what 5 conditions is intravenous anesthesia advisable, and under what 8 is it contraindicated? See page 356.

For diseases of what 2 systems is the symballophone a diagnostic aid, and what is its advantage over other similar instruments? See page 15.

What is an effective antidote for barbiturate poisoning and how is it used? See page 369.

For the diagnosis of what parasitic infestation is the cellophane swab technic used? See page 126.

What is meant by the "reversal of thyroid effect on menstruation?" See page 286.

What is cajedrol; what is its field of usefulness in medicine? See page 107.

Can you name 6 promising, rational therapeutic approaches to migraine headaches? See page 438.

Which drug is superior to any previously used for treating infectious mononucleosis, and what is its recommended dosage? See page 74.

What kind of pancreatic extract is used in (1) ureterospasm and (2) intermittent claudication? See pages 303 and 305.

What 2 therapeutic agents, combined, now offer the greatest hope of cure of subacute bacterial endocarditis? See page 57.

LOFFLER'S-from p. 191

A white woman, aged 55, came under observation June 6th, 1941. Her husband had died of tuberculosis in 1928. In April, 1938, she had severe bronchitis with slight asthma; a similar attack in October, 1940, more severe but brief. In April, 1941, she was hospitalized for two weeks for the same trouble. The cough persisted and was now her chief complaint.

Below the right clavicle, to the level of the second rib, there was dullness on percussion and exaggerated breath sounds from sternum to periphery, and there was a corresponding area of similar signs posteriorly. No rales were heard

Several sputum examinations were negative for the tubercle bacillus. The Wassermann reaction was negative.

June 6th, 1941, leukocytes 20,000, eosinophils 49%. From this to April 15th, 1942, the range was leucocytes 7700 to 21,600, eosinophils 0 to 69.

This case presented the three cardinal features of the syndrome—pulmonary infiltration, eosinophilia, and an illness apparently not very grave.

Asthmatic symptoms, though not conspicuous at the time of the lung infiltration, have since been very trouble-some on several occasions.

The two main concepts of pathogenesis are that the lung lesion is related to tuberculosis, and that it is allergic. The idea of a tuberculous pathology derives from the resemblance of the shadows to early tuberculosis. But they are transient and in only one of Löffler's series did the patient develop a distinct tuberculous process, a year later. In 37 of his cases the tuberculin test was made, with 13 negative results, and none of the subjects were young children.

COMPETENCY OF PHYSICIAN TO TESTIFY AS EXPERT ALTHOUGH HE IS NOT A SPECIALIST—In Pridgen v. Gibson, 149 N. C. 289, 139 S. E. 443 (1927), it was held that the fact that a physician, duly licensed to engage in the general

practice of his profession, is not a technical specialist in a particular department of medical science, does not preclude him from testifying as an expert.

The word "expert" has been variously defined: "A man of science"; "a person conversant with the subject-matter"; "a person of skill"; "a person possessed of science or skill respecting the subject-matter"; "one who has made the subject upon which he gives his opinion a matter of particular study, practice or observation." The basic theory is that the opinions of experts are admissible on questions of science, skill or trade, or on questions which so far partake of the nature of a science as to require a course of previous study, not necessarily technical specialization in any department.

-Abstracted from 31 Law Notes 92, April, 1927.

CHUCKLES

Interne: "Why did they operate on General Whittleby?" Nurse: "Oh, just for things in General!"

"Come now! We'll just forget I'm a captain, and you stick your tongue out at me just this once."

"I'm sorry, General, but I don't dare tell you what's wrong with you. It would be treason. The information would aid and comfort your enemies!"

"Do you think Vitamin Pills would help me, Doctor? I'm scared in the dark."

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THE THEATRICAL WORLD

"HARRIET"

"Harriet," a play in three acts and eight scenes by Florence Ryerson and Colin Clements, staged by Elia Kazan, scenery by Lemuel Ayers, costumes by Aline Bernstein and produced by Gilbert Miller at the Henry Miller Theatre.

Helen Hayes returned to the Broadway stage early in March in a new play, "Harriet," and once again made theatrical history. Those who remember Miss Hayes' queenly portrait of Victoria Regina will find her portrait of Harriet Beecher Stowe (the author of *Uncle Tom's Cobin*) even more luminous and heart-warming. It is Miss Hayes at her very best, for the role is one she can imbue with her own sincerity.

Mrs. Stowe was the sister of the famous preacher, Henry Ward Beecher, and the wife of an absent-minded professor. Miss Hayes presents her, not as a crusading spirit, but an appealing, warm-hearted woman who wrote her saga to free her immediate family from genteel poverty at least as much as to free the slaves. The scene in which Harriet writes an installment of her famous story in the midst of household turmoil is a gem which makes of Harriet an ordinary, yet very rare woman.

Rys Williams plays Harriet's professor husband with such charm that one understands Harriet's love for him. Each member of the cast gives an individually fine performance. The direction, the settings and costumes are superb.

A play not to be missed, a delightful and satisfactory evening for the doctor.

"LADY IN THE DARK"

"Lady in the Dark," by Moss Hart, with Gertrude Lawrence at the Broadway Theatre.

So much has been said and written about this play dur-

ing its record-breaking run of 460 performances and its record-breaking tour across the country so, now that it is back on Broadway (this time at popular prices) we can say that it is still the most successful musical play of the century.

Gertrude Lawrence, as versatile and wonderful as ever with sumptuous settings, a remarkable cast and the topic of psychoanalysis still intriguing, makes this an exceptionally enjoyable musical. The management has wisely kept the same fine orchestra in the pit for this second run at popular prices. Another chance for the doctor who missed this on on his last trip.

METROPOLITAN OPERA

Something new at the Opera. The Metropolitan Opera Company prolonged its season by popular demand for one full week, presenting for an additional performance each of the following: "Aida," "Traviata," "Faust," "Barbiere de Sivilglia." The highlight of the extended week of Opera was a triple bill, when, in addition to the two old standbys, "Pagliacci" and "Cavalleia Rusticana" there was presented a new and delightful version of that classic in operatic ballets, "The Dance of the Hours" from La Gioconda.

This new presentation of the "Dance of the Hours" has been choreographed by the Opera's ballet master, Mr. Laurent Novikoff, who in his prime danced with the great Anna Pavlova. The first performance was given at a Sunday and held over for the final week. Singled out for particularly high praise by the critics is the Opera's ballerina, Ruthanna Boris, who dances the solo, with brilliant aplomb, in a style strictly classic, yet definitely her own. This young ballerina, of Russian descent, was born and reared in New York City and her dancing has all the grandeur of tradition plus the freedom and personality of an American. Mr. Novikoff is to be congratulated on his charming version. The new costumes are lovely and the entire corps de ballet dances with an added lift.



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306 North Tryon Street, Charlotte, N. C.

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JAMES M. NORTHINGTON, M. D., Editor

VOL. CV

MAY, 1943

No. 5

Value of the Basal Rate in Goiter*

ARTHUR E. HERTZLER, M.D., Halstead, Kansas Professor of Surgery, University of Kansas Medical School

THE CHANGES seen in goiter may be divided roughly into developmental, proliferative and degenerative, comparable to dividing the life cycle into infancy, the reproductive age and old age. When we venture beyond these elemental stages uncertainty at once begins. For instance, metabolic changes, particularly those which take place along with changes in other endocrine glands, are chiefly physiologic; but when the epithelium becomes hyperplastic, the metabolic rate is much heightened. A lesser degree of hyperplasia leaves us puzzled. When degeneration begins metabolism is altered markedly, but just what it means we do not know.

The basal metabolic test is routinely done. It is of some help in estimating the toxicity of the patients with hyperplastic goiter and those with long-standing colloid goiters in which cellular hyperplasia has taken place. It is not only valueless but absolutely misleading in estimating the operability of patients with degenerative goiter and a clinical picture that is predominantly cardiac.

IN NONTOXIC NODULAR GOITER

But this business of beginning the examination with the basal metabolic rate—if the doctor feels impelled to determine the basal rate, he should keep the findings to himself. If he tells the patient the rate is not advanced she is likely to assume that

the goiter is causing no injury. The basal rates are regularly taken in our clinic; but the technician never tells the patient the reading and the members of the medical staff never look to see what it is. By this plan we have the satisfaction of being scientific and it injures no one except the poor girl who has to do the work.

IN TOXIC DIFFUSE GOITER

When properly used the term toxic must denote a physical condition associated with changed metabolism. Nervousness, indeterminate loss of weight, rapid heart and emotional states are not necessarily indicative of primary thyroid disturbances, though they are our most suggestive evidence. Loss of weight is always suggestive of hyperplasia, which produces a certain kind of toxin. When the gland is degenerating a different type of toxin is produced. The former may show a plus basal metabolic rate, while the second is not so influenced. We must consider the possibility that any or all of these signs may be due to other causes, not forgetting the possibility that the metabolism machine may be out of order.

In the more pronounced degree of toxicity there are many newly-formed acini, which may justify the term "Basedowified goiter of Kocher." Much more commonly, one finds pronounced development of new acini, which dominate the field. CI-I

^{*}Prepared for presentation to the 1943 meeting of the Tri-State Medical Association. From Dr. Hertzler's Diseases of the Thyroid Gland, Hocher, N. Y.

acini are found only in certain areas. These cases are the clinician's delight, for they may show an increased basal metabolic rate, and presto! the diagnosis is made. The increase in basal metabolic rate is even more pronounced if there is piling-up of epithelium in some of the acini. The cases in which cell degeneration follows proliferation show the stormjest course.

The basal metabolism test has almost superseded all other evidence in the diagnosis of hyperthyroidism. Much labor has been expended in recent years in perfecting apparatus for the determination of the metabolic rate in toxic goiters, and the estimation of the relation of this to the clinical course and operative risk. By means of gas apparatus it is sought to determine the rate of the bodily tissue change and thus estimate the severity of the disease. It may be said that there is a direct relation demonstrable in many cases.

Taken alone, the test becomes at once a relative one; say, for instance, like the Wassermann reaction. It is of value if taken as an adjunct to a careful clinical examination and if done by thoroughly competent technicians. Unfortunately the test is difficult and errors of technic too often confuse the results.

In severely toxic cases the patients are often too nervous to submit to the restraint necessary for the test. An attempt to apply the mask in such cases may be attended by permanent damage to the patient.

On the whole the test appears to be of value in inverse ratio to the clinical experience of the surgeon. A good laboratory man may be of much help to the inexperienced clinician, but to the experienced surgeon the aid is relatively small, and a poor laboratory man is a nuisance.

To make the metabolic test the sole measure of the presence or absence of thyrotoxicosis is wrong. I have seen a number of discharged soldiers with diagnoses of irritable hearts or similar ailments who had typical Basedow's disease: eye signs, tremor, tachycardia, and goiter which after operation showed the typical histologic changes. Because there was no notable increase in metabolic rate. thyrotoxicosis was declared to be absent. As a means of determining the degree of recovery after operation the metabolic test is likewise merely confirmatory. The basal metabolism rate commonly drops promptly after operation and this parallels the general improvement of the patient, easily apparent to the clinician's eyes. It may be a convenient means of expressing the state of the patient, but if one expects the machine to substitute for clinical study it will most certainly lead to serious error. The actual state of the patient, particularly the ability to withstand operation, will be better revealed to the experienced clinician by

a single look and touch of the pulse than by the basal readings, even when the machine is in the hands of an expert.

IN TOXIC NODULAR GOITER

When surgeons think of toxicity it is in terms of a boost in the basal metabolic rate. Many of them withhold their fire when a rise in the rate fails to appear. Increase of basal metabolic rate is an expression of increased metabolism which is in turn the result of active acinal hyperplasia. A nodular goiter which may be toxic enough to annoy the patient may not affect the basal metabolism machine. In such a case the wise surgeon will realize that the patient knows more about it than does the breathing apparatus.

The basal metabolic rate is usually somewhat increased, but since many of these patients have a minus rate at the beginning of their illness, a rise to what we call normal may indicate a considerable degree of toxicity. Generally speaking, the basal metabolism measurement is of little diagnostic value in this type of goiter, since it measures only increased burning-up of tissue and this may be slight—a fact too often forgotten.

IN DEGENERATED GOITER

The late Dr. Henry Plummer was much annoyed by the fact that many quoted him as saying that the BMR was a measure of toxicity. He correctly emphasized the fact that an increase of the basal metabolic rate was found only with the toxicity of proliferation, never with the toxicity of degeneration. "Any fool should know that," was his final summation. I may make the statement seem less harsh by stating that there are many intelligent clinicians who still believe that the basal rate tells them whether or not the goiter is harming the patient. In many regions the basal metabolism machine stands between the internist and the surgeon. It would not help matters much if I should observe that the the difficulty here as elsewhere in clinical medicine lies in the fact that a mechanical device and a laboratory assistant are too often the lazy man's dependence for the solution of any and all problems.

IN ATYPICAL TOXIC GOITER

If anybody cares, it can be stated that totally 'ectomized patients have on the average a basal rate of minus 10 to 15; about, in fact, what they had before operation and what our bright husky pupil nurses have. Dependence on the basal machine has done about as much to obfuscate us as did the misreading of Kocher's paper, published more than half a century ago. It seems to be generally accepted that a plus or minus 10 is within the normal in a basal reading. When we discover that the basal machine only measures an increased metabolism it will become a harmless machine and

a fit plaything for those who do not know goiters

from a clinical standpoint.

This symptom-complex has been refused recognition as a toxic state because the metabolic rate is usually not increased, in fact in most cases it is below what is usually regarded as normal. Such being the case the thyroid is categorically excluded from further consideration. The lack of increase in the metabolic reading merely indicates that there is not an abnormal rate of tissue destruction and expresses nothing about other disturbances which the thyroid gland may cause.

IN SUBMYXEDEMIC STATES

If the symptoms of which the patient complains are relieved by the use of thyroid extract we naturally assume that the symptoms were due to a deficiency. Likewise the basal metabolic rate in extreme cases is confirmatory. Readings of minus 40 or even minus 30 call for the therapeutic test. On the other hand, a near normal reading does not exclude a thyroid deficiency.

IN GOITER AND IMPAIRED LIVER FUNCTION

Marked elevation of basal metabolic rate is frequently associated with impaired liver function; however, the greatest degrees of hepatic insufficiency are encountered most frequently in toxic patients with chronic thyroid disease in whom the basal metabolic rate is normal or only slightly elevated (apathetic hyperthyroidism of Lahey).

Correlation of liver damage in our goiter patients with the clinical history and basal metabolic rate reveals some interesting relationships. Duration and intensity of thyroid dysfunction rather than the type of goiter present seems the deciding factor in impaired liver function. This is especially true of patients with goiters of long duration, who lave had indeterminate weight loss and history suggesting many remissions and exacerbations of the thyrotoxic state. A high percentage of such patients have normal or slightly elevated basal metabolic rates. When liver function and basal metabolic rate are correlated, one is forced to the conclusion that no constant relation exists. More important, it becomes very evident that the basal metabolic rate can be dangerously misleading if it is used as a guide in evaluating the prospective surgical risk. We encounter extreme degrees of functional liver damage in patients with basal rates of plus 30 or less. If a direct relationship existed between severity of thyroid dysfunction as reflected by the basal metabolic rate and the degree of damage associated with thyrotoxicosis, one world expect moderate degrees of impaired function (70 to 80 per cent of normal) with moderately clevated basal rates (up to plus 40) and greatest liver damage with high basal metabolic rates. This is not the case. Less than half of toxic patients

show such a relationship. On the other hand one

patient in five shows a normal or moderately elevated rate with marked to extreme impairment of liver function. This type of goiter patient requires more than ordinary preparation for operation procedure.

SUMMARY

The term nontoxic applies only to the relation of the goiter to the metabolic rate as it affects the patient's reactions and not as it is determined by the measuring machine. At best the basal rate is elevated only in thyrotoxic cases due to cellular hyperplasia great enough to be attended by increased metabolism. The basal rate does not measure the toxicity of degeneration, and gives no warning of the progress toward a damaged heart. When toxicity due to degeneration prevails, the cardiac disturbances dominate; where cellular hyperplasia is the chief factor, the signs of thyrotoxicosis are evident, and we try to measure its degree with a tin can, which in these cases is worse than useless. The surgeon who follows his specimens to the laboratory soon learns that slides from goiters that register on the basal metabolic machine are microscopically different from those that do not. Goiters which injure the patient but leave the basal machine unimpressed are the real problem, for these are the goiters related to ultimate cardiac death. The basal metabolic rate as a guide to operability is wholly useless. It is the patient and not the apparatus that one must operate on. It is the young operators, least equipped by experience to cope with the difficulties, who are most prone to operate at the unfavorable stage of the disease. These operators are no angels no matter how much they may contribute to the production of celestial messengers.

CHANGING TRENDS IN MANAGEMENT OF THE MENOPAUSE

J. R. Cogan, Miami Beach, in Il. Fla. Med. Assn., May)

The true menopausal symptoms are believed due to hypoövarianism and hyperpituitarism. Imbalance of the autonomic nervous system may give rise to a syndrome resembling the menopause, or occur as a result of it. The symptoms of a true menopausal syndrome will usually be alleviated by the judicious choice of estrogens, whereas those of imbalance of the autonomic nervous system will respond best to proper depressants and psychotherapy.

Diethylstilbestrol, a synthetic estrogen, has excellent effects, is adequately absorbed on enteral administration and is not as costly as the natural estrogens. It should be used with caution because of the possibility of unpleasant side effects and toxic symptoms.

Organic causes of bleeding in the menopause should be ruled out before employment of the androgens.

Of the androgens, testosterone propionate has proved of exceptional benefit in certain types of true menopausal cases and, with guarded dosage will not give rise to unpleasant developments.

Subfascial implants of androgen pellets are superior to the subcutaneous implants; the latter are more liable to slough out.

Improper Nerve Impulses Resulting From the Pressure of Impacted Teeth*

GRADY Ross, D.D.S., Charlotte, North Carolina

THE PURPOSE of this article is to show that pressure of impacted teeth, as well as infection, may be responsible for a variety of bodily complaints from which a patient suffers. In many cases in which the trouble has been attributed to infection it has been concluded that pressure and irritation solely have produced the ailment. Therefore, if you will think with me in terms of pressure, rather than infection, you will get a better understanding of the subject.

I do not wish to give the impression that I believe that impacted teeth cause all ailments with which we human beings have to contend. I fully realize that there are plenty of teeth sacrificed every day, with no help whatsoever to the patient. In many instances it is certainly detrimental to the patient to have had the teeth removed at all; but, accepting this as the truth, a great many patients suffer from bodily disturbances with symptoms completely foreign to what you would expect to come from teeth, who, after removal of the teeth, find themselves entirely free from symptoms of disease, and consider themselves entirely well. We have had a full recovery from so many patients. that we simply cannot ignore teeth, and especially impacted teeth, when the patient gives a history of headaches, mental disturbances, ringing in the ears, roaring in the head, deafness, indigestion; or eye disturbances, such as impaired vision and even blindness of the affected side.

Over a period of the last few years we have had several cases of mental disturbance, or near insanity, in which complete recovery followed the removal of impacted teeth. Dr. Gaither Bumgardner of Columbia, S. C., reports several cases of insanity in which, after the removal of impacted teeth, the patients have been able to leave the state institution and lead normal lives. This was also the experience of the late Dr. Boyd Bogle among patients in the state institution at Nashville, Tenn., also in the Nashville General Hospital during my interneship. It is with this thought that the following case reports are presented.

In each case, the general physical examination was negative in every respect, in so far as I was able to determine. All these patients were hospitalized for the removal of the teeth, and a general anesthetic was administered in each case. The reaction was normal in every respect.

CASE NUMBER ONE-WOMAN, AGED 40

This patient had a very severe pain in her head and neck, and was nervous at all times. She also suffered with indigestion and had recently suffered a great loss of weight.

X-ray examination revealed no evidence of infection, and at the time of the removal of these teeth did not see any infection. The upper right third molar was not clearly shown in the picture. We took several pictures of this area, but simply could not get one to show the exact position of this tooth. This was due to the fact that the bone in that area was so dense that the Röntgen rays would not penetrate it. The density of the bone was more forcefully brought to my attention during the removal of this tooth, as it was necessary to use several chisels, because the edges of the chisels would soon become dull and would not cut such hard bone, suggesting eburnation. The bone was very hard around the remaining teeth, but nothing to compare with the upper right third molar region. The roots of all the third molars had taken on secondary growth-hypercementosis. The roots of these teeth were as large as the crowns, or even larger. This hypercementosis was the result of some form of irritation, and in this case, it is pressure caused by its inability to erupt. It is in the mechanism of the tooth to grow until it reaches its mate from the opposite jaw. When some obstruction prevents its exit into the oral cavity, nature begins to reinforce the root in an effort to push it into normal position or occlusion. Nature being unsuccessful with a minimum amount of pressure to accomplish this purpose, it keeps reinforcing the roots, making them larger and larger, this, in turn, causing more and more pressure and irritation. In the lower jaw, the teeth were unable to erupt into the oral cavity because of the ascending ramus, the dense bone, and the second molar teeth obstructing their path, exerting a negative force or pressure downward and posteriorily on the mandibular division of the trigeminal nerve.

^{*}Read in meeting of Staff of Presbyterian Hospital, April 13th, 1943.

In the upper jaw, the teeth were unable to erupt into the oral cavity because of the density of bone, and the upper second molars being in their path had exerted great pressure on the maxillary division of the trigeminal nerve. The result was pressure and irritation from four sources registered in the same area of the brain. Pressure was exerted on the right mandibular division of the trigeminal nerve from the root of the lower right third molar; on the left mandibular division of the trigeminal nerve from the roots of the lower left third molar; on the right maxillary division of the trigeminal nerve from the upper right third molar; and on the left maxillary division of the trigeminal nerve from the upper left third molar.

CASE NUMBER TWO-WOMAN, AGED 23

The pain centered about the left side of the nose. The patient complained of her eyes and spots were seen before the eyes, especially the left eye. Indigestion and nausea were experienced, in addition to constant headaches. The patient slept very little, was emotional, and cried easily. It was suggested by her physicians that she be placed in an institution for mental disturbances.

In this instance, the tooth involved was an upper left cuspid instead of a wisdom tooth. The upper left cuspid was horizontally impacted, growing in a completely malposed position, posteriorly and superiorly, exerting pressure and irritation on the roots of the upper left second bicuspid. The pressure on the roots of the second bicuspid had evidently been there for many years, as the roots of the second bicuspid had been almost completely absorbed by the crown of the impacted cuspid. The second bicuspid had to be removed as a result of this absorption. The impacted cuspid, because of its inability to erupt, had, as in the case of number one, taken on a secondary root growth. As a result of this abnormal condition, we had irritation and pressure from two sources from this impacted cuspid tooth. First, a positive pressure and irritation of the roots of the second bicuspid tooth, this being proven by the fact that the roots of the bicuspid were absorbed; second, a negative pressure or irritation of the roots of the impacted cuspid, this being proven by the fact that the roots of this tooth were so enlarged. Therefore, it can be readily seen that we had pressure and irritation to the maxillary branch of the fifth nerve from two places from this impacted cuspid.

CASE NUMBER THREE-WOMAN, AGED 45

This impaction was of the lower left third molar. The patient had a roaring in her head at all times and would often send her children out to see if an airplane were passing over the house. She slept very little, was easily fatitgued, highly nervous, and was bothered with indigestion. As in the case of the other patients, no evidence of infection was elicited from study of x-ray films, or from clinical observations before and after the removal of the tooth. However, I do want to call your attention, as in the other cases, to the enlarged roots. The roots were larger than the crown and were exerting great pressure on the mandibular division of the trigeminal nerve.

Synopsis and Conclusions

In all three of these cases, the symptoms given completely disappeared after the removal of the impacted teeth.

It is my opinion that none of the patients whose cases are described was suffering from any infection whatsoever. It was simply irritation to the nerve trunks and nerve endings produced by these impacted teeth. This pain was caused in almost exactly the same way as referred pain is caused. Many, many times, patients come into the office suffering from a severe toothache, insisting that the trouble is in the jaw opposite from that in which the disease process really is. This is due to the fact that the patient has been suffering with a toothache so long, the nerve trunk has become so irritated that it does not register the exact location of the pain. So, many times, we have had the tooth out for two or three days before the patient can fully realize we have taken out the right tooth,"the tooth responsible for his pain.

The symptoms of nausea and indigestion in an adult are produced exactly the same way as nausea and upset stomach is produced in a baby when it cuts its first teeth. It is a very rare thing for a child of this age to have an impacted tooth; however, the normal teeth are under pressure while making their exit through the bony process and tough gum tissue, thereby exerting a negative force on the mandibular or maxillary division of the trigeminal nerve just the same as if they were impacted, and this is true until these teeth have made their exit into the oral cavity.

The more experience I have with impacted teeth, the more firmly I am convinced that impacted teeth cause many more ailments than we have given them credit for causing in the past. I, therefore, most earnestly recommend a thorough examination, including x-ray examination, of all teeth in which the patient gives a history of symptoms such as those in the cases described, and you are unable to fix responsibility elsewhere. If any teeth are found impacted, and are causing pressure and irritation, it is my advice to have them removed. By adopting this course we have all to gain and nothing to lose.

OLIVE OIL applications have been established as the cause of a case of dermatitis of 10-years duration.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

PSYCHIATRIC RETROGRESSION

OFTEN I WISH the thing were otherwise and still more often, perhaps, that I myself were not altogether as I am. But the thing can be only as it is or otherwise. And the patriarch long ago expressed the opinion that the thing that hath been is the thing that shall be again. The new thing may be always only the rediscovered, forgotten, old thing.

Man may be less resourceful than he thinks himself to be and decidedly more conservative. Man's mass attempt to bring about radical changes against decided objection of another group constitutes war; man's effort to stabilize the existing order is the purpose of legalized government. In the conflict between the two trends it is not surprising that so-called civilization has made so little progress. Destruction and construction may eventually become counterbalancing forces. Sometimes it may be more prudent to let the thing alone as it is. Risk may always be involved in change, even in attempts at improvement. Uzzah was struck dead for presuming to place a steadying hand upon the ark when the going was rough for the new cart, passing over the road alongside Nachon's threshing floor. And many another mortal since that tragic occurrence has placed destructive hands upon arks and upon many other things. All 'round the world today man is busily engaged in attempting to induce his fellow to think and to behave otherwise. or to risk the fate of Uzzah. But there is little evidence that man reflects helpfully upon experience, personal or racial.

Is the recent legislative enactment to bring about improvement in the functioning of the State Hospitals in North Carolina? Who knows? In that state there are two State Hospitals for white people, one for Negroes, and a Training School for the white mentally subnormal. Heretofore each of these four institutions has been managed by a Board of Directors, appointed by the Governor and confirmed by the Senate. None of the Boards knew much about what each of the other Boards was doing and none of the institutions had much awareness of the detailed activities of the others.

The new legislation abolishes the many Boards and substitutes one Board for the many. But that unified Board will select out of its membership an executive committee of three members for each institution. If each such committee is actually to manage each institution, the new arrangement will

differ little from the old manner of management.

The unified Board is to be composed of sixteen members. The secretary of the State Board of Health is to be ex-officio a member also of the State Hospital Board. The other fifteen members are to be appointed by the Governor and the appointments are to be confirmed by the Senate. The appointment is to be for a five-year term.

In creating the new Board the law-making body thought of geography, of human sexuality, and, of course, of politics. The State of North Carolina was divided into a Western, a Middle and an Eastern Section and each Section is to be represented by five appointments to the Board. Four of the persons so designated shall be men and one shall be a woman. No two members of the Board shall be citizens of the same county.

I find myself wondering, of course, about several of the provisions of the new enactment. I had become accustomed to the existence of two North Carolinas-Eastern North Carolina and Western North Carolina. A bisected state has long been a political and, perhaps, a patriotic necessity. Altogether contrary to the Federal Constitution, each of the two North Carolinas is represented by one Senator in the National Congress, instead of by two. And every four years one North Carolina furnishes the Governor for the two North Carolinas. That must be an admirable arrangement, otherwise some hamlet, plethoric in statesmanship, might proffer Senators and Governors and Judges decade after decade. I wonder what the splendid womanhood of the three North Carolinas may be thinking of the ratio-one woman to four men? Is the paucity to be interpreted as meaning that the one woman is to be the equal of the four men-even in voting? Why is the number of the women members of the Board so carefully fixed by the enactment? Was there legislative or gubernatorial fear that too few or too many women might be appointed to the Board? And why is so much thought given to geographic area, rather than to population? Is it more important for Graham or Dare to be represented on the Board than the teeming thousands of Guilford, Mecklenburg, or Forsyth?

The new legislation almost makes the Governor a member of the Board. The enactment gives him the authority to transfer a patient from one hospital to another. And the Governor, in conjunction with a committee of three members of the Board, may redistrict the state for State Hospital purposes.

And the new North Carolina Hospital Board of Control is authorized to select a General Superintendent of Mental Hygiene. That official shall be selected for a term of two years, to perform duties prescribed by the Board and to work for a salary also to be fixed by the Board. The Superintendent of Mental Hygiene must be an experienced psychiatrist, and it is to be inferred that his function will include the episcopacy of the activities of the State Hospitals and also the state-wide work in mental hygiene, yet to be set going by the Board. The superintendent of mental hygiene is to be stationed in his own office in Raleigh. The Board is empowered to select also a general business manager of all the institutions embraced in the act. He, too, is to have his office in Raleigh. From that central situation he will exercise control, somewhat in absentia, to be sure, over the fiscal affairs of each hospital. I surmise from my non-legal interpretation of the new legislation that it unwittingly provides for the possibility of conflict of authority between the superintendent of the Hospital, stationed at the Hospital, and the general business manager, quartered in Raleigh, amongst the other politicians. And I infer that the business manager who is to perform important work for each Hospital must be another individual actually stationed at the Hospital.

The purpose of the new legislation is undoubtedly wholesome. But some of the provisions of the enactment are stupid; others are political; and one, at least, is diabolical. The provision for a Board of sixteen members and for the appointment of a fixed but small number of women and for representation of all the geographic areas is undoubtedly political in hope. Certainly some of the members of the Board should be women, but not political-minded women, interested only in publicising themselves. The graduate nurses of the state should demand representation on the Board. The majority of the patients in the State Hospital system are women and the majority of the employees are likewise women. Most of the difficult and skillful work of a hospital is performed by women.

But no such Board should have more than five members. The larger the Board the more diluted the interest of the individual member and the less the feeling of personal responsibility. The Board will be more managerial as a unified Board merely in name. If each Hospital is to be provided by the Board with an Executive Committee of three, that Committee will do the managerial work of the specific Hospital. The unified Board will know about that Hospital only what the Executive Committee tells it.

Each member of the Board is to be paid seven dollars a day during the meetings of the Board. And the expenses of the members are paid, of course, by the state. Heretofore the members of the State Hospital Board have not been paid a per diem. I wonder what the nurses and attendants of the Hospitals will think of the per diem of seven dollars a day—nurses and attendants whose re-

muneration amounts to one dollar or so a day? The creation of so large a Board with such generous provision for a per diem will be felt by the state's treasury, even though the patients and the employees of the Hospitals may not sense its sustaining influence. Compensation of seven the day, accompanied by board and bed, is not unlikely to cause elevation of the tip of the rhinal appendage. even in these plethoric, bellicose times that demand unheard-of personal sacrifices by the patriotic citizen. Few school teachers are so generously compensated. And few of the privates and lesser officers of the armed forces of the nation are better remunerated. If the so-called insane of North Carolina-of all three of the North Carolinas-do not receive better care as a result of the conjoint labours of the sixteen-women-and-men Hospital Board, so considerately per diemed, then the patients will be wholly justified in vocalizing their disappointment and discontent.

The expectation, if it exists, that a competent psychiatrist can be found who will be willing to take the appointment of general superintendent of mental hygiene for a term as brief as two years, will not be realized. Such an appointment should be for a term equal at least to that of the members of the Hospital Board. And the superintendent should be an appointee, too, of the Governor, and not a mere hired creature of a lay board, untrained in medicine and in hospital management.

But the diabolical feature of the new legislative creation is the authority given to the Governor to dismiss any member of the seven-dollar-a-daywomen-and-men Board withount having to give a reason for the implied disgrace. Even such contemplated removal of the member of a Board is a disgrace—both to the legislative body that makes it possible and, even more, to the Governor who might be sufficiently lacking in personal courage as to be willing to use it. As a matter of fact the members of the Board are elected to membership on the Board by the State Senate; they are only nominated for membership by the Governor. Officials elected by the Senate should not be removable by the Governor. The Governor publishes his reasons for abolishing or for modifying the sentence of a citizen to the State Penitentiary. The Governor should be as candid and as courageous in dealing with a citizen whom he removes from office. The Governor's lack of courage should never be protected or concealed by legislation.

I should be comforted by the belief that the Governor could not find a single citizen, lay or medical, woman or man, to accept appointment on such a condition. Yet I doubt not that the Governor, per contra, is being besieged already; by sea and my land, as Miletus was, and by air as well,

for designations as members of that eleemosynary Board.

Not all that masquerades as change represents fundamental modification; and not all change implies improvement. But—the functioning of the State Hospital at Morganton has been thoroughly investigated. Many complaints were made by patients and by others. Many of the criticisms of the institution were said to be justified. There is to be a new, unified Board of Management, each member of which is to be generously paid for her and for his labours.

Has not the psychiatric revolution in North Carolina produced a definite result? Does not an aroused Democracy always bring results—for the Democrats who provoke the arousements?

INSURANCE MEDICINE

For this issue DAVID S. GARNER, M.D., Roanoke, Va. Shenandoah Life Insurance Company

LIFE INSURANCE MEDICINE*

IN THE PRESENTATION of this paper, no credit is assumed for originality. The material of others has been freely borrowed with the hope of briefly outlining the work of life insurance medicine.

Although life insurance, like public health and industrial medicine, has not been looked upon any too favorably by the medical profession as a whole, it has played a unique part in the economic stabilization of society. Such a statement can be appreciated when one considers the number of people in this country who have availed themselves of this form of protection.

According to figures released on January 1st, 1943, there were sixty-seven million policyholders with a total of one hundred and thirty-three billion dollars of insurance in force in this country. This means that one out of every two persons in our country is in some measure trying by the purchase of insurance to provide for future contingencies as well as for the security of his dependents. The United States has 6.2 per cent of the world's population, and owns 68 per cent of the world's life insurance, which fact attests the frugality and unselfishness, as well as the relative economic security of our society.

The purpose of the medical department of a life insurance company is first, to properly classify individuals according to their average ability to live; and second, to assist in the establishment of the validity of disability and death claims. The classification has, of necessity, been based upon the collective group experience of many companies, which has resulted in the establishment of certain stand-

ards by the use of which selection is largely determined. Varying degrees of departure from these standards in the main factors of selection have affected the mortality, and adjustments in ratings within limits have been made to take care of this group.

The chief factors in selection are medical history, family history, build, physical findings and inspection. This information is obtained chiefly through the examiners, the family physicians, specialists, clinics, inspectors and agents. Special studies are required at times to supplement the work of examiners, and chief among these are the electrocardiograms, x-ray pictures, blood sugar tolerance tests, blood counts, exercise tests for the heart, and basal-metabolism, serologic and kidneyfunction tests. Obviously, such studies are not any too frequently used because the size of the average policy will not justify the expense. However, electrocardiographic and x-ray examinations have become almost routine with certain companies in applications for policies of \$50,000 and above; and for policies of \$10,000 and above they are freely used when specially indicated.

Probably the most important of the factors in selection is the medical history. According to clinicians in general, an adequate clinical history is 50 per cent or more of any diagnostic problem. Yet, it is recognized by insurance companies that the examiner is at a distinct disadvantage in obtaining an adequate history, as compared with the family physician and specialist, because of the attitude of the applicant. The reason for this can be readily understood because in one instance he is seeking relief either mentally or physically, whereas in the other he is entering into a contract, the expense of which will be determined to a certain extent by his physical condition. Such an attitude emphasizes the importance of a thorough inquiry into one's medical history.

Says Dr. Chester T. Brown, Medical Director of the Prudential Life Insurance Company, in his paper on the "Medical Work of Life Insurance":

"There are many diseases the history of which obviously renders the applicant unacceptable. A few of these are cancer, primary anemia, apoplexy, tabes, cirrhosis of the liver and coronary occlusion. On the other hand, some illnesses, after recovery has occurred, may be entirely disregarded. Most of the acute febrile conditions may be classed here; but the history of a large number of diseases falling between these extremes has a definite effect upon insurability, and it may be said that companies desire complete details which should include probable diagnosis, date, duration, number of attacks and comments concerning the completeness of recovery and residual effects. History of such diseases as dysentery, appendicitis, arthritis, asthma, biliary colic and other gallbladder conditions, duodenal and gastric ulcer, empyema, pleurisy, fistula in ano, hyperthyroidism, urinary calculi, osteomyelitis, neuritis, syphilis and tuberculosis are included in this category."

^{*}Read, with exception of a few revisions, before the Southwestern Virginia Medical Society, September, 1941.

The time since the illness, the treatment received and the present physical findings of the applicant largely determine how this group shall be classified. For those who have undergone operations, we are largely guided by the indications for the operation, nature of operative findings, history during the interim together with insurance experience.

The family history is probably the least helpful of the five factors in the evaluation of a risk. That certain traits or attributes are inherited is generally accepted; but this factor is discounted to a great extent, chiefly because of a difficulty experienced in obtaining adequate and accurate information. The incidence of certain diseases is greater among certain families, and some predisposition to these diseases appears to be transmitted to off-spring. Among these are diabetes, cardiovascularrenal diseases and certain mental disorders. A tuberculous family history, and association with tuberculosis, are factors that cannot be waived without study. They serve as a warning and cause us to exercise extra caution in underwriting a risk.

Although quite a bit has been written about the relationship of morphology to disease, undue stress has not been placed upon this from an insurance standpoint. Particular attention, however, has been paid to the average heights and weights for different ages, and tables have been compiled based on collective experience of many companies. It does not necessarily follow that an average weight is a normal weight, for every individual; and for this reason a variation of 20 per cent from the average is usually considered to be within normal limits. Further degrees of departure from the average have resulted in an increased mortality.

Dr. Henry Wireman Cook, deceased, Medical Director of the Northwestern National Life Insurance Company, had this to say in discussing this subject:

"Both extremes of underweight and overweight are associated with increased mortality, which is in direct proportion to the degree of variation. Extremes of underweight are more serious at the younger ages, and appear to be associated with a lowered resistance to infection by disease germs, especially tuberculosis. Extremes of overweight become more serious past middle age, and are in the latter decades especially associated with diabetes, heart diseases, high blood pressure, apoplexy, kidney diseases, and gallbladder diseases."

Each underwriter in an insurance company has a table at his disposal which shows the accurate mortality experience in build. It is for this reason that they insist upon accuracy in the recording of measurements and weights.

The next step that follows is an examination. If the history is properly taken, certain clues may have been elicited which should be followed through at this time. The examination is designed to cover the main systems of the body and if it is followed with average care, it will, in most instances, elicit the desired information. Practically all examination forms include inquiries regarding build, general appearance; state of nervous system, vision, mouth, nose, throat, neck, thyroid gland, superficial lymph glands, lungs, circulatory system, abdomen and rectum; and indications for home office urinalyses.

Little need be said about the head and neck, for careful inspection and palpation usually reveal the significant facts. Information as to the lungs is usually obtained by inspection, auscultation and percussion, for seldom is the history of any significance. All clothing should be removed from the waist up and the chest should be examined carefully for any scars, asymmetry and limitation of motion. Special care should be exercised in auscultation for adventitious breath sounds.

Seldom is significant information revealed as a result of examination of the abdomen. Sizeable scars and hernias are frequently overlooked and rarely is any mention made of masses or tenderness, yet a careful examination of the abdomen should reveal any such condition present. Examination should be made at the costovertebral angle, and inspection and palpation of the lumbar vertebra. Each examination of a male applicant should also include an inspection of the rectum and genitalia.

One should make certain that authentic specimens are submitted for home office urinalyses. Routine urinalyses in the home office consist of chemical and microscopical studies. Repeated specimens are requested when findings are questionable. The significance attached to these findings will be decided to a great extent by one's medical history and physical condition. For example, a constant finding of four to ten r. b. c. per h. p. f. with a history of renal colic, should cause suspicion of a kidney stone, and in all probability an x-ray examination would be required before an attempt to evaluate the risk. According to Todd and Sanford, albuminuria is probably the most important pathological condition of the urine and also the most frequent. The applicant's age, blood pressure, personal health history, type of albuminuria (accidental or renal) together with the number of milligrams of albumin per 100 c.c. are carefully considered

In Meakins' recently published *Textbook of Medicine*, we are told that .3 per cent of our population are diabetics. We, therefore, have to be on our guard for this group. Should the specimen be definitely positive, diabetes of course is suspected and the applicant should be willing to undergo the necessary studies to rule this out.

Of all impairments with which we have to deal, probably the significance attached to blood pres-

sure readings and heart findings by insurance companies have been most questioned by the medical profession. It is not uncommon for an examiner to recommend applicants as first class risks with diastolic pressures of 96 to 102; whereas insurance companies seldom, if ever, accept any one with a diastolic pressure above 100 to 102, and then it is with a rating that is almost prohibitive. We are extremely cautious in any case in which the diastolic is as high as 92, and in such instances, repeated readings are requested.

So frequently has it been said that one's blood pressure (systolic) should approximately be equal to one's age plus one hundred that it has almost become an aphorism with the laity. Yet, anything above 138 to 144, regardless of age, has been found by insurance experience to be attended by excessive mortality. There is great divergence of opinion as to the significance of unusual blood pressure when subsequent pressures are found to be within normal limits. The examiners usually explain this by stating that the patient was subjected to undue tension and that no significance should probably be attached to it. Evidence is rapidly accumulating that any such finding is questionable and that it frequently means a prehypertensive state. Studies carried out in the past eight to ten years by Hines and others tend to substantiate this contention. Certainly, the available data are sufficient to discriminate between those in this group. Companies, there, wish the records of repeated blood pressure readings rather than the lowest ones in attempting to evaluate their significance.

Heart examination should reveal marked hypertrophy, arrhythmias and murmurs. Hypertrophy, the least frequently reported, is generally conceded to be the most difficult to determine. When it is suspected, and the size of the application justifies it, x-ray examination is frequently resorted to. The evaluation of arrhythmias are usually made by the heart exercise test and the use of the electrocardiogram. According to Dingman, heart murmurs are the most frequent of all impairments which underwriters evaluate. We wish to know the time of the murmur, its quality, where most pronounced, the direction and extent of its transmission, whether constant or inconstant, and the effect that change of position or evercise has upon it. Applicants with disastolic murmurs are usually declined; those with systolic murmurs accepted as standard, with ratings, or declined, according to the data presented.

Particularly within the past six years has the electrocardiagram been used with increasing frequency in evaluating risks. Some of the larger companies have on their staff men who devote the greater part of their time to cardiology. In the large applications for policies of \$25,000 to \$50,-

000 or above, this procedure has almost become routine. Dr. Wilson, Professor of Medicine of the University of Michigan, and Dr. De Graff, Professor of Therapeutics of New York University and a member of the Criteria Committee of the New York Heart Association, in speaking before the medical directors in 1937, emphasized the importance of establishing a uniform nomenclature of electrocardiography, and stated that life insurance companies could make a most important contribution in this field if they would make a comprehensive statistical study of the electrocardiogram with a large number of normal subjects of both sexes at various ages. For the past six years, such a policy has been in progress and probably within the next 10 to 15 years something definite may evolve to more readily differentiate the normal from the abnormal. Certainly, it is an advantage to life insurance companies to do so and to exercise extreme care in these studies, for 50 cents of every dollar paid in death claims is paid on deaths due to cardiovascular diseases. Forty per cent of this amount is paid for deaths which occur between the ages of 40 and 60.

We now come to the last but not necessarily the least important of the five factors in selection; namely, that of inspection. It is common practice in business for one to assure himself concerning the reputation of those with whom they enter into contractual agreements. In this respect, insurance companies constitute no exception. An insurance policy is a contract entered into in good faith between an insurance company and an individual, and it is only fair that rather definite information regarding this party be obtained.

On each applicant a confidential report is obtained. It is largely upon this report that an estimate of one's habits, finances, occupation, business relationships, habitat, etc., is made. Included in habits would be the excessive use of alcohol, drug addiction, gambling, morals, etc. These are extremely hard to evaluate, yet it is recognized that they do do affect normal life expectancy. One has but to follow the accident columns alone to verify this. During the past fiften years, an average of 30,000 to 40,000 persons have been killed annually in this country alone in automobile accidents, and no small part of these deaths have been attributed to the use of alcohol.

Experience has shown that there should be a reasonable ratio between the amount of insurance applied for and the income of the applicant. Such a standard enables us to determine whether an attempt is being made to overinsure. Also, the purpose for which insurance is being purchased plays an important part in the decision concerning the applicant's insurability.

One's occupation likewise has to be considered.

For instance, munitions workers, blasters, aviators, miners, electricians and soldiers incur greater risks and in fairness to other policy-holders financial adjustments must be made to compensate for the increased hazard.

One's business reputation, too, has to be considered, for the party who is tricky and dishonest in his dealings with others certainly would be suspected when he enters into a contractual agreement with an insurance company.

From what has been said, we do not wish to leave you under the impression that underwriting departments in insurance companies undertake to predict the length of life of an individual applicant, nor do they have any rule-of-thumb by which classifications are made. Rather, their purpose is to classify applicants into groups according to the information that has been disclosed through the five factors of selection and this information is evaluated in the light of insurance experience together with the present clinical concepts. Thus far, they have been rather accurate in their classification for seldom, if ever, has the mortality as a whole exceeded that which has been anticipated. When an application is declined, it means that the applicant has been placed in a group which, according to insurance experience, has proven to be unfavorable.

It is, and will probably continue to be, difficult for general medicine and life insurance medicine to regard impairments with equal concern. This difference of opinion can possibly be explained on the difference in numbers of terminal pictures that are called to the attention of each. With the private physician, the number is of necessity limited; whereas, with the insurance companies, it runs into the thousands; hence the experience of the two widely differ. For instance, in Boston two years ago an associate in medicine at the Harvard Medical School stated before the Life Insurance Directors meeting that patients with pernicious anemia should, with adequate medical care, live to a ripe old age. Yet applicants with such a diagnosis are classified as risks not acceptable, for who can be sure that an individual will avail himself of such treatment?

As was stated previously, the second purpose of the medical department is to assist in establishing the validity of disability and death claims. The disability feature originally included only waiver of premium during total and permanent disability and at death the face value of the policy was paid. Chiefly between 1920 and 1930 this feature was generally expanded to include an income disability benefit, which factor greatly complicated the work of the medical department. With such a wide latitude, particularly in the face of such an economic depression as was experienced in the early '30's,

abuses were bound to arise. Naturally, a few tried to capitalize upon this feature and some were successful.

There are different degrees of disability and the problem of distinguishing between the partial and the total-and-permanent disabilities is the one that has caused the most concern. Certainly, many with partial disability have continued to work and have had their earning capacity impaired but little. Others with partial disability and with less intestinal fortitude have seen in this a method of obtaining economic security, and have succeeded in maintaining their claims. Some have been the victims of circumstances, lost their positions, and as a result their disability has been magnified. An occasional insuree has seen in this a cure for his economic plight and has deliberately assumed a symptomatology with which he has been able to establish an unjust claim.

To assist in reviewing such claims and to make recommendations concerning their validity has been a part of the duties of the medical department. In evaluating them, all companies have freely availed themselves of the services of family physicians and specialists with the hope of being just and fair to the claimant and other policy-holders. Of necessity, physicians have been guarded in their diagnoses and findings, and occasionally have been most sympathetic to the claimant. The court, and laity too, have likewise been very sympathetic toward this group, with the result that insurance companies have had to pay and to pay heavily. Because of this, a number of companies were forced to withdraw this feature, while with others it has been greatly restricted. The disability feature without the annuity presents its problems, but they are nothing like as difficult or as expensive for insurance companies to handle. From what has been said, it is not to be deduced that policyholders as a whole are untrustworthy. This would be far from the truth. Yet, abuses have been of such frequency as to make underwriting in this field extremely difficult and to warrant extreme caution in the future.

Death claims are of course reviewed by the medical department. Particular attention is paid to those of five years and under, and in many instances, inspections are obtained and the examining physician is consulted in the hope of ascertaining if any important information was withheld or overlooked which would have in any way affected the evaluation of the risk. Such cases cannot be contested, and these claims are promptly paid. These could probably be called the cases in which post-mortem examinations are made with the hope of revealing the errors in underwriting. The period of contestability in most states is two years. Should fraud be revealed, payment of the claim in

such cases may be withheld or contested, depending upon the discretion of the legal department.

In conclusion, it may be said that the chief purpose of a medical department is to classify those who apply for insurance by the five factors of selection—medical history, family history, build, physical findings, and inspection; and second, to assist in the establishing of the validity of disability and death claims. The degree of success that has attended this work has in no small part been due to the whole-hearted coöperation of the medical profession as a whole, for they have supplied the data from which the standards have evolved. Misunderstandings have occurred, but they, in most instances, have resulted in a greater respect for each other and each other's problems.

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Sudden Death.—The facility and accuracy with which physicians who are called in cases of sudden death diagnose the cause of death is a source of wonderment to the suffering public. The worst of it is that everything goes when the doctor hath said it. The fact is that, without an autopsy, and in some cases chemical analysis, in many if not most cases it is next to impossible to state with accu-

racy the cause of sudden death. Often the snap-judgment on the part of the physician is a bit of professional presumption.—Med. Examiner, 1897.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

THE TREATMENT OF SEPTIC MENINGITIS AND BRAIN FUNGUS BY THE SULFONAMIDE DRUGS

A WHITE BOY, aged 4, was admitted to the South Carolina Baptist Hospital Oct. 4th, 1942, in stupor. There was continuous twitching of the muscles of the right side of the face and constant rotary motion of the right arm. The protruded tongue was drawn to the right. The pupils were dilated and did not react to light. The neck was rigid and could not be flexed. The legs were spastic with exaggerated knee jerks. Kernig's sign was positive. The temperature was 102.5, respiration 25 and the pulse rate 130. The leucocytes were 31,000 with 92 per cent polymorphonuclears.

There was the history of a fall of several feet off the porch three days previously at which time a nail protruding an inch from the upper surface of a board lying on the ground had been driven into the child's head. There had been no bleeding from the wound.

Stereo plates taken on admission showed a punch wound of the skull 2 inches above and 2 inches behind the left auditory entrance. There was a fragment of unattached bone ½ cm. in diameter lying in the brain ½ inch below the opening in the skull.

The diagnosis of septic meningitis was made and operation promptly done under ether anesthesia to remove the foreign body and to give adequate drainage. Through a crucial incision pus and hair were found under the scalp wound which had closed after the nail had been withdrawn. The opening in the skull was enlarged by trephine and rongeur. After the fragment of bone had been removed from within the brain, suction through a soft-rubber catheter was used to free the nail tract of septic exudate and tissue debris. A wick of folded rubber-dam was left in the tract to promote free drainage. Sulfathiazole powder was liberally dusted over the skull and under the scalp but not into the brain. Neither the dura nor the scalp was sutured.

After operation a total of 2 Gms. of sodium sulfapyridine monohydrate dissolved in distilled water was given intravenously each day for 2 days. He was then given by mouth sulfapyridine, 5 grs.,

every 4 hours day and night for 7 days. The drain was removed after 48 hours, at which time the child was rational. The rectal temperature did not rise above normal after the 10th day, when a beginning fungus of the brain was first noticed as a small soft dark red mass protruding from the wound. This reached the size of a hickorynut before it began to subside. It had entirely disappeared within the scalp which was closing by granulation at the time of dismissal from the hospital Oct. 25th, 21 days from the date of admission. From the time of its recognition, at each daily dressing the fungus was bathed with warm physiologic salt solution and freely dusted with sulfathiazole powder before being covered with rubber-dam to protect it from trauma. The dressings were loosely applied over a doughnut-shaped ring of absorbent cotton that had been placed about the mass to prevent pressure upon it. On April 1st, 1943, the scalp wound was well healed, there had been no sequelae and the patient was normal in every way.

Our understanding of brain fungus and the essential principles underlying its treatment have not materially changed for over a hundred years. The condititon was well understood by Larrey, the great French military surgeon, from his experience with head injuries in the Napoleonic wars. "Any pressure exerted upon these cerebral excrescences occasions a sensation of weight throughout the whole extent of the wound; and if pressure be continued, the patient will experience nausea, the functions of sensation be disturbed, and syncope supervene. If the tumor be cut off, the divided extremity will form a new growth, which, if cut again, will be alike reproduced. In other respects such excisions cannot be made without them being productive of serious mischief followed by death." "Compression, as well as the application of alcoholic and astringent lotions, may bring on fits, by increasing the irritation, and by disturbing the exercise of the vital properties of that portion of the brain with which they come in contact." "The development of these herniae presupposes an exceedingly exalted state of irritability of the pia mater and the cerebral blood-vessels, as well as a deep-seated inflammation within the parenchymatous substance of the brain itself, which it is difficult, if not impossible, altogether to cure."

"It is necessary to extract with proper care every extraneous body—to apply the dressings with the utmost gentleness, and in such a manner that the apparatus shall not make any kind of pressure upon the sensitive parts. If the hernia is susceptible of being reduced, Nature, thus assisted, will accomplish it by degrees, and the protruded por-

tion of the brain will return entirely into the cranium."

Horrax, in discussing fungus complicating brain abscess, says that when the mass is kept protected from pressure by a doughnut of cotton and from trauma by the application of rubber tissue to the surface and lightly dressed with gauze the surface of the fungus will granulate and when the underlying infection has subsided the whole mass will gradually sink inside the skull, leaving a perfectly flat granulating surface. Dowman, using similar protection against pressure and trauma, urges that the fungus should never be touched with gauze or chemicals.

The use of sulfonamides locally in wounds of the brain is a controversial question. Raaf says it is still debatable which of them is most effective locally and which is least likely to produce an untoward effect. Hurteau, because of difference in the rate of absorption, suggests using a mixture of several of the drugs, for example sulfanilamide with its high immediate concentration and sulfadiazine with a longer persisting concentration. Munro prefers sulfanilamide or sulfadiazine to sulfathiazole for use on the surface of the brain because, both experimentally and in the human being, epileptiform seizures are traceable to the use of sulfathiazole.

We report this case of recovery from traumatic septic meningitis complicated by brain fungus to show the efficacy of drainage supplemented by the administration intravenously and orally of sulfapyradine in the treatment of the meningitis, and to stress the immediate and continued favorable response of the fungus to the local application of sulfathiazole powder. We have found in the literature no mention of the treatment of fungus by a sulfonamide drug. Fungus cerebri, in the few cases seen by the author, has been refractory to treatment with one patient dying from encephalitis.

We feel that the application of sulfathiazole powder over the fungus in this case resulted in a high concentration of the drug locally in the tissue where its antiseptic influence was most needed to overcome the infection. Without apparent ill effect, this was obviously a material factor in the favorable outcome. A fungus is caused by local edema and infection of brain tissue and will only recede when the infection has been overcome. Additional experience will be needed to determine the value of sulfathiazole locally applied, as a curative treatment of brain fungus. Other of the sulfonamide drugs, as suggested by Munro in the immediate treatment of wounds of the brain, are perhaps safer and as efficacious.

DERMATOLOGY

J. LAMAR CALLOWAY, M.D., Editor, Durham, N. C.

ALOPECIA AREATA

ALOPECIA AREATA or patchy baldness is being seen more frequently of late and a discussion of its etiology and management seems indicated.

No one is in agreement as to the cause of alopecia areata. Many theories have been advanced all of which have some fundamental basis for their concept but none of which will in every case explain the given problem. Some of the existing theories are listed below:

- 1. Nervous tension
- 2. Psychic trauma
- 3. Chronic fatigue
- 4. Syphilis
- 5. Endocrine disturbances
- 6. Intercurrent infection
- 7. Foci of infection
- 8. Dermatoses such as lichen planus, lupus erythematosus, localized scleroderma, pyogenic infections, drugs, x-ray therapy, etc.

In my experience any one, or a combination of the first three etiologic factors, cause most of the alopecia areata. Of course syphilis, endocrine disturbances, typhoid, or other serious intercurrent infectious may play a part, as do other obvious specific dermatoses, drugs, or x-ray therapy. Examples of the circumstances predisposing to the development of alopecia areata illustrate the points in question.

A physician is worried about his wife's illness to the point that he is unable to sleep. He is so concerned that he is unable to carry on his work adequately. Throughout his scalp and beard appear areas of typical alopecia areata which are completely involuted within two months after his wife's gratifying recovery.

A child is walking down the street and immediately before her there is an accident in which a person is killed. This incident so upsets the child that for days the psychic trauma is disturbing to the point that she cries continuously, can't sleep alone, and is very nervous and upset. She develops a typical alopecia areata over her scalp which gradually involutes with some minor local therapy of a stimulating nature.

A minister has all that he can do within his own parish. A fellow minister joins the army as a chaplain leaving the two parishes to be covered by the already over-worked minister. As he carries on he becomes more and more run down and fatigued. Over his scalp he develops a typical alopecia areata which involutes without therapy after taking a month's vacation away from his work.

The other etiological factors need no discussion since they are obvious from physical and serological examination.

Therapy is directed toward removing any obvious factors that have been discussed and toward stimulating the scalp locally. Ultraviolet light using erythema-producing doses together with daily massage, frequent shampooing, sedation, and a stimulating scalp lotion or ointment will usually take care of these problems. Occasionally one has to use hormone therapy, and remove foci of infection together with general upbuilding measures. A vacation from work is the best single therapeutic measure if any nervous tension or fatigue factors exist. The following prescriptions are satisfactory for local stimulating measures:

-	Resorcinol monoacetate	7.2 12.0
	Salicylic acd	3.0 6.0 12.0 60.0

UROLOGY

RAYMOND THOMPSON, M D., Editor, Charlotte, N. C.

CANCER OF THE PROSTATE THE NEWER TREATMENTS

DEAN, WOODWARD AND TWOMBLY obtained 1 "spectacular results" when treating patients for cancer of the prostate with surgical castration and in others treated with stilbestrol by mouth there was an improvement almost as great, though often slower. Ultimately, however, the majority of patients relapsed and died.

Until Huggins showed that castration caused primary tumors to become smaller and metastases to regress, there was little encouragement to be found in any treatment. Investigators of the chemical angle contributed the information that the prostate contained a phosphatase which had maximum activity in acid solutions, that the sites of metastases from cancer of the prostate contained this acid phosphatase, that little was found in prostates of infants; and that it increased with puberty and was present in the adult prostate, the hyperplastic gland, and the cancerous prostate. The prostate gland is the only organ containing large amounts of acid phosphatase.

Dean ct al., in a recent review of their experiences state that measurement of the acid and alka-

^{1.} Dean, A. L., Woodward, H. Q., and Twombly, G. H. Endocrine Treatment of Cancers of the Prostate. Jour. Urol., Jan., 1943.

line serum phosphatase is an accurate diagnostic test for patients suspected of having prostatic cancers. It may also be used to show the response to treatment

They found similar changes in acid serum phosphatase in patients treated with stilbestrol. (This method of treatment arose from the evperiments of Huggins showing that androgens stimulated prostatic activity, whereas the administration of estrogens had contrary effects.) In eight castrated patients the fall in acid phosphatase was paralleled by clinical improvement lasting three months. The later relapse was associated in two with a rise of acid phosphatase.

Their experiences confirmed Huggins' findings and "offers clear-cut evidence that withdrawal of testicular hormones or administration of estrogens, for a time at least, causes a marked reduction of acid serum phosphatase," either by diminishing the production of acid serum phosphatase by the prostatic cancer, or by retarding the entry of this enzyme into the circulation.

These writers studied every patient from a chemical, clinical and endocrinological viewpoint, and correlated the chemical and endocrinological changes with the clinical course. They made frequent clinical and röntgenological observations before and after treatment and made routine chemical assays at short intervals.

A "considerable proportion" of the castrated patients experienced edema of the ankles, and a few had hot flushes, while among those treated with stilbestrol, some were nauseated, and a change to feminine contouring of the body was noticed as the prostatic tumor diminished in size. Only two patients failed to benefit from castration, and in some cases those who had been confined to bed for months were walking about within a few days.

Woodward has produced evidence that excess alkaline phosphatase is produced by bone as a defense mechanism, and that the activity of the bone defense may be indicated by the amount of alkaline phosphatase in the blood. Following castration, a drop in acid phosphatase in the bones indicates lessened activity of the prostatic cancer. The index of bone repair (alkaline phosphatase) might be expected to fall also. Explanations are offered why this usually rises for two months following castration.

Frequent quantitative tests of androgens and estrogens following castration or administration of stilbestrol were made. Huggins and others have shown that androgens stimulate the epithelial cells of the prostate and make patients with prostatic cancer worse, while estrogens improve the conditions by reducing the activity of the epithelium. After treatment with stilbestrol, the estrogen out-

put rose markedly. Following castration of cancerous patients, there was a fall in estrogen output in almost every case.

Surgical castration of patients with cancer of the prostate causes a marked rise in excretion of gonadotropic hormone, while administration of stilbestrol causes a fall. The findings suggest that castration liberates the anterior pituitary from testicular control.

The findings of Dean et al. throw doubt on Huggins' hypothesis that prostatic epithelium, cancerous or noncancerous, responds directly to the presence of androgens. Castration seems to result often in an absolute rise in androgens, but the situation awaits clarification.

The conclusion is made that patients with cancer of the prostate are more comfortable when treated by surgical castration or administration of estrogens and perhaps live longer. Endocrine treatment everts different degrees of benefit on different types of prostatic cancer, but they feel that they have observed too few patients to differentiate clinical types by response to endocrine treatments, and that only general observations are justified.

Whether treated surgically or by administration of estrogens, "the majority of patients after a variable period of improvement relapse and die of the disease."

DENTISTRY

J. H. GUION, D.D.S., Editor, Charlotte, N. C.

TREATMENT OF PULPLESS TEETH

There are three main tissue reactions as a result of dental caries and infection: 1) the dentinal barrier; 2) the leucocytic barrier in the pulp chamber; and 3) the periapical barrier. All three types are interdependent and represent the normal reaction of the tissues to irritation. This subject was discussed in a helpful way¹ in a recent meeting of the Dental Section of The Royal Society of Medicine.

If a section is made of a tooth from a patient who is suffering severe toothache, and the pulp is alive, it will be found that the organisms are situated in the pulp chamber opposite the exposure, whilst the remainder of the pulp is normal and healthy.

If no treatment is carried out at this stage, death of the pulp is followed by a rapid spread of infection to the main root canals and accessory canals, and into the periapical tissues. Often the patient is unaware of this second acute inflammation except for a tenderness of the tooth on percussion, but

^{1.} W. S. Ross, in Proc. Royal Soc. of Med. (Eng.), Feb.

he is conscious of a sudden cessation of the pain which he had experienced when the inflammation was present in the pulp itself.

Although the acute condition may pass away in a short time, the bacteria are not destroyed, because they are able to live in the apical third of the root, where there are numerous accessory canals and permeable secondary cementum in which they can shelter, and a chronic apical condition presents itself, with the organisms ensconced in the apex of the tooth, surrounded by leucocytes which cluster around the opening of each canal into the periapical tissues. Even if the main root canal is sterilized, the organisms still remain in the accessory canals, and it is certain that by the use of strong antiseptic more tissue is destroyed by the drug leaking through the apical foramen, thus presenting those organisms which inevitably escape destruction a further nidus for their growth,

Removal of the apical third of the root which is the nidus for the infection is, as would be expected, an operation usually followed by successful results, and it is unfortunate that this procedure is limited to the single-rooted teeth in the anterior part of the mouth.

MISCELLANY

EMBALMING AND TOXICOLOGY¹

As the matter now stands, embalming is one of the most formidable enemies of the truth, and, consequently, one of the most cherished friends of the lawyer.

Should a witness who is satisfied that he is in possession of information of vital importance, but which is not asked for, communicate it to the jury, even against the wish of the side for which he appears?

As for me, actuated by the admiration of truth in all its fullness, which is, or ought to be, a characteristic trait of the followers of science, and not sufficiently recognizing how very unresponsive in this respect are the votaries of the law, I conceived the idea that a knowledge of the components of the embalming fluid used in a certain case would be a worthy contribution to the cause. It was certain to be of value to some one-to the prosecution should it chance that the fluid did not contain arsenic, and to the defence if it did. Accordingly, I procured from the undertaker some of the stock left on hand. At length I was permitted to make the analysis, and this was done accordingly and the results duly reported. But when the trial came on I was told by the prosecution, to my astonishment, that in giving my testimony I must not say anything at all about the embalming fluid; and to my horror—or what would have been horror had I not been already well seasoned in the ways of lawyers—I was told that I must suppress this matter because the fluid contained arsenic, and therefore the Commonwealth's contention that arsenic was the poison used would be seriously jeopardized if that fact were made known.

I forbear to dwell upon the long, able, exhaustive and animated debates between the learned attorneys for the Commonwealth and me in our efforts to harmonize our respective view on this subject. Suffice it to say that I fully admitted that the revelation would, in all probability, effectually ruin the Commonwealth's case in its chemical aspects; but I urged that, on the other hand, to keep silent would as effectually ruin me morally. Much forceful argument was advanced to demonstrate to me that my estimate of my character was out of all proportion to the fact; but at length one of the learned attorneys, provoked beyond endurance by my exasperating display of pig-headed virtue, was moved to exclaim he would be damned if I should ruin his case; and then I-with great shame and sorrow I record it—the profound philosophical equanimity which I usually affect being now clean knocked out, made answer in the words following, to-wit: "I be damned if I shan't." And I did.

Now, I wish to do full justice to these gentlemen. In all the ordinary relations of life they were high-minded and honorable men. They based their action on what they consider is the duty of a witness, namely, to submit the selection of the topics of his testimony to the judgment of the side which presents him; and they, moreover, objected to furnishing the opposing side with testimony inimical to themselves, especially since the other side was able to procure this testitmony if it chose to do so. But it seems to be a sufficient answer to all this to point out the fact that the evidence was of a nature which, if it were made known, would almost surely lead to the acquittal of the accused men; which, if it were suppressed, would almost surely result in sending him to the gallows; and that this evidence. on which hung the issues of life and death, was already in hand and could be had for the asking. A lawyer may be justified in acting in accordance with the precepts of his teachers, and so keep hidden in the dark a fact like this, and when he has done it may feel that he is none the less an upright member of society; but a doctor, if he were influenced by what he is taught by his teachers, could not do such a thing without feling that he was an assassin.

A man who has much to do with courts soon learns that the effort to get at the truth calls into exercise but an exceedingly subordinate proportion of the court's energies, and that his conscience will be in need of great repair after it has been entrust-

^{1.} Wm. H. Taylor, Richmond, in Medical Register, Jan., 1898.

ed to the keeping of a lawyer agonizing with one of his brethren. The real object of each side plainly is to win the victory, so that it is deplorably obvious to those who become familiar with the inner workings of our "courts of justice," that the last place in which to look for "the truth, the whole truth, and nothing but the truth" is a courthouse. To my mind, therefore, it is clearly the duty of a witness who knows any fact which if divulged would essentially change the aspect of the case to tell it unless he is stopped by the irresistible power of the presiding judge himself; governing his conduct in this matter by the homely principles of honesty and fairness, and not by the sublimated subtleties of the law, which are intelligible to those only who, as Macaulay puts it, think it "right that a man should, with a wig on his head and a band around his neck, do for a guinea what, without these appendages, he would think it wicked and infamous to do for an empire."

The obstacles which the practice of embalming puts in the way of the detection of poisoners constitute a very great evil for which there seems to be no adequate remedy.

Yet, why disquiet our souls about the matter? For my part, I contemplate the whole thing with philosophical composure, knowing that, do what I may, I shall not be able to circumvent the sophistries, the tricks, the cold-blooded villainies practiced in our court-rooms, where heaven, earth and hell are all pressed into service, alike to facilitate the escape of the criminal and to obstruct the pursuit. Time and again, when I have beheld the results of my conscientious and painstaking work. shaped by me with studious care to a form plain in its neatness, so that it might, peradventure, be comprehended by the unskilled jurymen, presently all messed up, and finally knocked into chaos by the false science of an opposing expert; when I would be dreadfully handicapped by being obliged to tell the truth, having, at the outset, been cruelly made to take an oath to do so; while the lawyer was availing himself to the utmost of his constitutional right to lie and of his constitutional predisposition to do it-on such occasions, thus sore beset, I would become fully persuaded that the less I had been able to find out about the case at issue the better; and indeed, that it would have been the best had I found out nothing at all-best for me in this present world, and for the lawyer and the opposing expert in that world which is to come.

DEATH BY LIGHTNING

(Wm. H. Taylor, Richmond, in Medical Register, June, 1897)

It is a startling anomaly when the public authorities fail to appropriate any medical service which they can get for nothing, and many conjectures were advanced in attempts to explain why Henrico County did not instantly clutch Dr. Chalkey's offer of a free postmortem. In the fullness of time it came to light that this strange aberration arose from a state of feeling the most respectable and praiseworthy, but, at the same time, the most unlooked for, namely, the profound piety of the gentlemen of the jury. According to the statement of one of these gentlemen he and his confreres were moved by the pious conviction that it was the hand of Heaven itself that had done the deed. and that it would be sacrilege should any human hand less reverent than an undertaker's disturb the consecrated victims further. The religious conception of the sanctifying power of lightning, which, it may be observed, has venerable antiquity to commend it, was supplemented in the mindss of this saintly jury by an appeal to the best established principles of ratiocination; for, they reasoned, here was a house with everyone in it dead and mangled, it was on fire, a terrible thunder-storm was prevailing; therefore it was the lightning which killed these persons-clearly, it could have been nothing else. And so the gentlemen of the jury, having theology and logic to back them, brought in their verdict as aforesaid.

The man killed by the lightning was of unblemished reputation, and held in high esteem. There was nothing to raise a doubt as to the alleged mode of death of him and his family, except in the minds of a few troublesome persons, found in every community, who obstinately refuse to understand things they do not comprehend.

And the matter might have drifted together out of mind but that shortly after the dead man had been so impressively laid to rest the astounding discovery was made that he was a rogue, and an otherwise all-round scoundrel of the first class; that the wife and children were not his at all, but the property of another man, which he had stolen and run away with. It was realized that the death of this family could be reasonably attributed to some agency other than lightning. The question, now become very prominent and very perplexing, could not be resolved decisively. It might, perhaps, have seen so resolved had the permission to examine the dead bodies which Dr. Chalkley asked for been granted.

HISTORIC MEDICINE

DID JENNER DISCOVER VACCINATION?1

From time immemorial, variola has been one of the most disastrous scourges of our race. It existed in China and India for thousands of years before Christ. Hindustan has never, for centuries, been entirely free from it, and the mortality has been large; each epidemic has contributed to the number of blind persons, who subsequently lost their lives from snake-bites, falling into wells, being run over by carts, or devoured by the wild beasts of the jungle. Man, at a very early date, began the study of this disease, and how best to treat and prevent its recurrence. In remote ages, tittle or nothing seems to have been done, before the introduction of inoculation and vaccination.

Edward Jenner first heard of this practice in 1770. It is claimed he began its study in 1776,

^{1.} E. L. Morgan, M.D., Washington, in Va. Med. Semi-Monthly, June, 1896.

and during this year vaccinated his first case, while in "1798 he published his first important paper on this subject." To England's distinguished son justly belongs the honor of the rediscovery of vaccination; he again brought to the notice of the world at large that which had been lost to mankind for centuries.

Dhanwantari, judging from the Sacteya, vaccinated persons several thousand years before Christ, and, according to some authors, a few centuries after the death of our Saviour.

This distinguished physician, and supposed author of this old medical work, is the first descriptive writer on vaccination. He seems to be a deified doctor of great ability; his name is now surrounded by the myths of ages, handed down to posterity as a matter of ancient medical history.

All authorities on the antiquity of vaccination in India refer to the "Sacteya Granthum," and therefore I shall only select two translations for comparison. The Asiatic Journal, etc., Vol. VIII, 1819, stated:

"We derive the following from the Madras Courier of the 12th January: 'As my examination of the Vaidya Sastras has been casual, and may never be repeated, I shall here notice a fact, which will add another to the many proofs of the truth of 'there is nothing new under the sun.' It is that the inoculation for the cow-pox was known of old time to the Hindu medical writers. To substantiate this statement, it is necessary only to refer to the Sacteya Grantham, undoubtedly an ancient composition. In this work the author lays down the rules for the practice of inoculation.

"Take the fluid of the pock on the udder of a cow, or on the arm between the shoulder and elbow of a human subject, on the point of a lancet, and lance with it arms between the shoulders and elbow until the blood appears; then, mixing the fluid with the blood, the fever of the smallpox will be produced.

"The smallpox produced by the fluid from the udder of a cow will be of the same gentle nature as the original disease, not attended by fever, not requiring medicine; the diet may be according to the pleasure of the patient, who may be inoculated once only, or two, three, four, five or six times. The pock, when perfect, should be of a good color, filled with a clear liquid, and surrounded by a circle of red; there will then be no fear of the smallpox as long as life endures."

How long this system of the inoculation of "cowpox" remained in vogue we are unable to state; in fact, it would appear that for centuries it was lost to the people of the Orient, and superseded by the inoculation of smallpox, which latter preventive appears to have been used by the Brahmins, Chinese and Burmese in very remote ages, subsequently introduced into Europe, and from Constantinople Lady Wortley Montague carried this practice into England. It is more than probable that Jenner was not the first man to practice vaccination in Europe, nor even in England. James T. Whitaker says: "Intimations of the protective influence of cow-pox had been made here and there in various parts of the world, especially in connection with dairies. People in different places believed in the influence of this protection, and certain individuals had actually practiced it upon themselves and in their families. Such statements have been handed down from Persia, Scotland and Holstein."

In speaking of vaccination as a preventive against variola, one author states: "In Europe, Sülzer, in 1713, Sutton and Fewster, in 1765, called attention to this property of vaccine.

It may seem strange why vaccination should have been abandoned. Why preference was subsequently given to inoculation seems startling. Did the anti-vaccination sentiment become so strong that the use of this preventive of smallpox had to be abandoned?

No doubt religion, caste, etc., all contributed to the abandoning of this operation.

The old Aryans had cattle, and it is hardly fair to suppose, their cows for thousands of years were, and had been, entirely free from cow-pox.

It matters not as to whether Dhanwantari was a deified man or a mythological character.

The decline of Hindu medicine, 750 and 1000 A. D., with the abolition of hospitals, may have caused the loss of other old or older records speaking of vaccination.

There is one point I wish to strongly emphasize: By 1838, the new disease vaccinia was so far forgotten in Jenner's own parish, Berkley, Gloucestershire, that the milkers were ignorant of the cause of the appearance of vesicles upon their hands. If such was the condition of affairs in so short a time in England, a favorable climate to cultivate vaccination, what could be expected of the condition of things centuries after in India?

Edward Jenner is only entitled to the honor of the rediscovery of vaccination, the energy he displayed in this cause, and of placing it upon a scientific basis in the eighteenth century.

What Colebroocke and other Orientalists have realized for the history of philosophy has never been attempted by physicians in the interest of their profession in Hindustan. But very little has been done in translating old Hindu medical works, or else we should have heard of the antiquity of vaccination in India in times anterior to Jenner's era. The Persians, Chinese, Arabians, Greeks and

others supposed the world to be flat. But it is stated that old Hindus were well advanced in astronomy, and knew the world to be spherical. Why were the Greeks, Egyptians and others ignorant of this fact? The Egyptians only spoke of the Sunken continent of Atlantis. The Chinese, it has been stated, evidently visited America before Columbuss, calling the country Fonsang. Hypnotism has been practiced in Hindustan for centuries, but the Greeks seemed ignorant of this fact during the life of Hippocrates and years afterwards.

Had not the Great Alexandrian library been destroyed, and also the Chinese Emperor Tsin-chehouang caused the destruction of large numbers of books in his empire, we would be able to speak with more authority in regard to ancient medicine, especially vaccination and other matters of history.

Is there anything remarkable in the fact that an argument should take place as to whether Jenner and England hundreds of years after, should be entitled to all the honors for investigating cowpox, when the Aesculapius of India had already a thousand of years previous described the operation and subsequent symptoms of the inoculation of vaccinia? So it is seen in no medical work of great age that this operation is described except one, the Sacteya Grantham, a musty relic of the past medical enlightenment of India, which description is scientific, being quite accurate. To India, then, belongs the honor of the discovery of vaccination by one of her illustrious sons, and to England's Jenner the credit of its rediscovery and scientific investigation of this great advancement in the prevention of smallpox in our era. So it is seen from this paper, the Aryan race were the pioneers in this field of investigation, both in the past and the present.

"From India, the knowledge of inoculation of the vaccine has passed into other countries. Thus William Bruce, Consul at Bushire, wrote to Mr. W. Erskine, of Bombay. (Annals of Chemistry and Physic, I. X., March, 1819), vaccination has been practiced for a long time in Persia."

Mr. Humboldt, in his political essay upon the *Kingdom of New Spain*, proves during a number of years, the inhabitants of the Cordillera of the Andes have observed the preservative power of vaccination. Marquis de Vallembroso, in 1802, inoculated a negro slave a second time with variola, whereupon, he said he had been vaccinated previously while driving cattle in the Andes, and he could not contract smallpox.

HOSPITAL FOR INSANE BUILT OUT OF RUINS OF FIRST STONE CHURCH IN AMERICA (Clinical Excerpts)

Father Francisco Xavier Billini, an humble and beloved priest, numbered among many charitable deeds the build-

ing of the first hospital for the insane in the Dominican Republic out of the ruins of the San Francisco Monastery, the oldest stone church in America, after it had been destroyed by an earthquake. In the annexes of the tumble-down San Andre's prison, he founded and maintained an orphanage and house of public charity; the latter, modernized, is today known as the Padre Billini Hospital. Father Billini is probably best known for his discovery in 1877 of the remains of Christopher Columbus in Santo Domingo. His grateful fellow citizens have erected a statue in his honor in Trujillo City, the capital of the Republic.

TUBERCULOSIS

J. DONNELLY, M. D., Editor, Charlotte, N. C.

TUBERCULOSIS IN PAN-AMERICAN COUNTRIES

THE subject should be of interest to us because of our increased collaboration with these countries. The death rates in these countries have been, and still are, much higher than the rate for the United States, and mutual efforts toward the betterment of the health conditions in these countries will be for the best interests of all concerned.

At the last yearly meeting of the American College of Chest Physicians invited speakers from the Argentine, Mexico and Cuba discussed the incidence and death rate of tuberculosis in their individual countries and urged greater efforts toward eventful eradication.

In Argentina (pop. 13,000,000) from 1914 to 1936 the death rate was reduced from 176 per 100,000 to 120 per 100,000 (27.8%). In the United States, in the same period, the reduction was 61%. In this period the population of Argentina increased 59.3%, the total deaths 25.2%.

The death rate in Buenos Aires, a city of more than 2,500,000 inhabitants, was reduced from 210 per 100,000 in 1924 to 128 per 100,000 in 1936. This decrease has been greater among women than among men, the peak for women being between the ages of 20 to 24 years, that for men between the ages of 50 to 59 years. The tuberculization index for 1940 for draftees 20 years old in the different provinces is from 45.6 to 99.7%; for the City of Buenos Aires 82.2%; for the 8,000 college students examined 75.7% for all ages, with a partial index of 65.6% for students 16 years of age, to 100% for those over 24.

The invited delegate from Mexico gave, for the 20,000,000 population of his country, the estimated deaths from tuberculosis 25,000 per year, 125 per 100,000, although the registered mortality was only 12,000 to 13,000 in the last few years; the morbidity for the disease for the country as a whole as 250,000. He stated that a minimum of 12,000 sanatorium beds for the treatment of tuberculosis were needed in the country, whereas only

1000 beds were available. In the last two years a great effort has been made by the government to triple the number of beds, and plans for a campaign to raise funds were formulated. Three new hospitals are now under construction and a new pavilion is almost ready for occupancy at the sanatorium. A compulsory insurance plan to provide a regular source of funds for the care of needy cases has been under study. Until recently the antituberculosis activities have been principally in the charge of governmental agencies, but now private citizens are contributing efforts and money to the cause. However, the government is still leading the campaigns.

The principal tuberculosis problem in Mexico is care among the poorer classes with the few hospital beds available. Consequently, surgery has to be resorted to more frequently because of the advanced stage of the patients' disease when they enter the sanatorium—sixty-eight per cent of the cases admitted, bilateral, 50% with cavities visible on the x-ray film, 12% with bilateral cavities, and only 5% with moderate-size ingltrates in the pneumonic stage.

The delegate from Cuba stated that a determined effort is being made to organize a systematite and efficient campaign against the disease. Cuba has an area of 44,000 square miles and a population of 4,500,000-73% whites. Havana, the largest city, has 700,000 population. The death rate from tuberculosis has been showing a steady downward trend; still, in Havana it amounts to 160 per 100,000. Less reliable statistics give the rate for the country as 65 per 100,000. The reasons: (1) the concentration in Havana of practically all hospitals for the treatment of the disease, (2) less reliable statistics, and (3) more unrecognized and hidden cases in the rural areas. The morbidity of the disease is placed at 1.6 to 2.7%, according to the sources of the figures, but no reliable survey to determine the rate of infection has been made. A survey covering a representative section of Havana with a population of 150,000 puts the rate of infection judged by the reaction to tuberculin at 69.62% of the lower and middle classes. Among those tested who had reached the second decade of life 91% reacted positively. Whites, mulattos and Negroes showed very little difference in regard to the percentages of positive reactors.

In Cuba, also, the control of tuberculosis is handicapped by the scarcity of available beds. However, new institutions are now under construction, one in the hills of central Cuba, one in Oriente, the most thickly populated of the provinces, and a Hospital for Children near Havana. The present plan calls for the eventual construction of a sanatorium in each of the six provinces. At present efforts are made to control infection as far

as possible by home supervision of infected cases and pushing to its limit ambulatory collapse therapy. In the yearly case-finding campaigns an average of 4000 new cases have been reported yearly for the past five years. This campaign has been handled through ten existing dispensaries.

The social and medical importance of tuberculosis was recognized in Cuba some years ago and this prompted the creation at the Medical School of the University of Havana of a Chair of Tuberculosis. This was among the first departments for the specific teaching of the subject of tuberculosis in any medical school. Under the supervision of this Chair of Tuberculosis postgraduate courses for physicians and nurses are given, with the coöperation of the National Council of Tuberculosis, which organization is promoting an energetic antituberculosis campaign. The speaker believes that "the tuberculosis problem in Cuba is one of first magnitude, and its eventual control calls for decades of unremitting effort."

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

SUDDEN DEATH

Many of us have long believed that entirely too many sudden deaths were ascribed to heart disease. It is easy to do this, and, in the present state of hostility to the performance of necropsies, in a great proportion of cases very difficult to do otherwise.

It would seem¹ that we have done pretty well without the necropsies, that no more than the proper proportion of sudden deaths have been written down as due to heart disease.

The office of the Chief Medical Examiner of the City of New York, since the bureau began to operate in 1918, has handled an average of 16,000 cases of sudden death yearly. These include homicides, suicides, casualties, deaths in prison, death in unusual or suspicious manner, when unattended by a physician, or suddenly while in apparent health. It has accumulated data on 275,000 deaths. Only those cases were selected where death was unanticipated, occurred within two hours after onset of symptoms, and were purely non-traumatic, all purely medical and not predictable. Only those cases were selected and tabulated that were completely autopsied. To provide a chart from which reasonable and reliable conclusions could be inferred, it was felt that a minimum of 1000 sudden deaths should be selected.

Lesions existed in some which a good history

^{1.} M. E. Marten, Brooklyn, in Med. Times, April.

would not have included. Examination in others would have disclosed an additional number of serious conditions of such nature that the death would have occasioned no surprise. In the main, however, whatever the ultimately discovered cause of death, as revealed by autopsy, it was of such nature that it was not sufficiently disabling for these people to have sought medical care.

Chronic myocarditis, an interstitial fibrous myocarditis or connective tissue replacement of functioning muscle, leads the list with 342 cases—34.2%. It includes cases of coronary sclerosis that had, through diminished blood supply, contributed

to a fibrotic process.

Cerebral hemorrhage covers nontraumatic subcortical or nuclear hemorrhages.

Congestion of viscera requires explanation. When careful autopsy reveals no apparent cause of death except a generalized visceral congestion. the organs are sent to the Toxicological Chemist of the department, for a general unknown analysis. In addition, histological studies were made of each of the organs. In 77 (7.7%) no toxic agents were found to account for the death, and histopathology did not furnish the answer; the cause of death remaining a mystery. It must not be overlooked that epilepsy, not a few of the psychoses, heat stroke, some allergic deaths, snake venom, insulin, and other agents do not leave traces in the body.

Status lymphaticus—54 cases out of 1000, 43 in the first decade of life. It is difficult to express an accurate opinion on this entity, if it be one, and particularly as to what contribution to the cause of death this too-convenient term gives. Less information is obtained from autopsies in children under 10 years of age than in any of the other groups.

Syphilitic aortitis is most interesting in that it was found most frequent in the third decade and that it was found early in the second.

Subarachnoid hemorrhage—30 cases, no history or signs of trauma were found, and the source of the bleeding could not be fixed.

Brain tumor—The striking feature is uniform distribution throughout all decades of life, male and female sharing this disease equally, and that these tumors can be silent for a long time and yet cause sudden death.

Chronic ulcerative tuberculosis, apparently undiscovered, was responsible for 13 cases.

Ruptured heart accounts for 12.

Acute gastroenteritis follows with only 11 cases, all occurring in the very young.

Hemorrhage from ruptured esophageal varix contributes seven cases.

Meningitis, ruptured ectopic pregnancies and

acute pancreatitis were each responsible for seven cases.

If we add together the number of cases from those pathological lesions which can be properly classified as cardiovascular disease, we have: ehronic myocarditis—342; cerebral hemorrhage—180; syphilitic aortitis—40; coronary thrombosis—40; ruptured aneurism—35; acute and chronic valvulitis—35; ruptured heart—12; total 684 cases—the astounding total of 68.4 per cent of all sudden deaths. Glaringly striking is the ratio of 768 males to 232 females. No explanation for this factual finding is apparent.

PROGNOSIS IN PULMONARY TUBERCULOSIS

Persons developing tuberculosis today are just as apt to die of the disease as were those who developed it 25 years ago.

However, the outlook for the tuberculosis patient today is much more hopeful from the viewpoint of life expectancy—13 years for a white person, five years for a Negro. This can be explained in part, at least, on the newer treatment that patients are receiving. Improvement in living conditions during the last 25 years has contributed a great deal.

It is much easier to prevent tuberculosis than to cure it. The prognosis becomes increasingly less certain with continued progression of the disease despite treatment; the person who understands and remembers his physical limitations despite arrest of his disease will live longer than the one who forgets too soon that he ever had tuberculosis; and, finally, the outlook for complete and permanent recovery is much better in those patients who enjoy economic security than in those who are forced to depend on the social agencies for their existence.

The general practitioner is again taking his right place in the practice of medicine-and with a background of study and training that justifies the highest confidence in his ability declares John Joseph Nutt, M.D., New York, in Hygeia for November, and he further declares: "If specialists would accept no patients except those referred by family physicians, it would benefit the patient, the family physician, and the specialist. The patient would, of necessity, have a physician who would be a friend and adviser in all things pertaining to health. The prevention of illness has become a large part of the practice of medicine and surely this is work for the family physician, who knows his patient from top to toe. He also should be the judge of the good or evil of treatments, drugs, foods, exercise and climates,"

LEUKEMIAS, HODGKIN'S DISEASE AND LYMPHO-SARCOMA

(J. D. Peake, Mobile, in Jl. Med. Assn. Ala., April)

The acute lymphatic and acute myeloid leukemias have a very poor prognosis and radiation offers little. Patients with chronic myeloid and chronic lymphoid leukemias can be made more comfortable and their useful life prolonged by the guarded use of radiation therapy and general management. Of lymphoblastomas, both of the Hodgkin's and lymphosarcoma types, in a few cases life may be prolonged 10 to 15 years. If the lymphosarcoma is truly local, one may get a complete cure if large doses are given to the local growth and surrounding lymphatic drainage; true local lymphosarcomas are rare. The numerous treatment methods, such as radioactive salts, cyclotron, eggwhite and numerous other newer methods, should not be adopted until the experimental phase has passed. Radiation is the method of choice in chronic leukemias and lymphoblastomas until some better method has been presented.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

ANTI-CIGARETTE AGITATION

Now that nearly everybody smokes cigarettes, we seldom hear them called coffin-nails; and, instead of condemnation of cigarettes as worse than cigars or pipe, we see representations of the comparatively harmlessness of the various brands of cigarettes.

It was not always so. Here is a sample 1 from the medical literature of 50 years ago:

The most injurious of the effects of tobacco are exerted on the nervous system. The terminal elements of the vagus are likely to be first stimulated and then paralyzed, with corresponding manifestations on the part of the heart. There are often changes in blood pressure, and the red and white corpuscles and the hemoglobin may be greatly altered. The cells become crenated, or partially disintegrated, and their movements and numerical relations disturbed, the hemoglobin reduced in quantity, its oxygen-bearing power lessened. Tobacco also exerts its influence upon the alimentary canal, salivary glands and kidneys. Smoking most injures the nervous system. Chewing often leads to digestive disturbances.

The poison of tobacco is stronger in cigars than in cigarettes or pipes. Cigarettes are a source of danger, only because they are particularly smoked by the young, to whom tobacco is especially dangerous, and because they are more likely to lead to excessive smoking. A mild Havana cigar contains but 2 per cent nicotine, while some tobacco contains 8 per cent, so that the former is less likely to do harm.

Toleration for tobacco is soon acquired. It, yet, leads to disease in many individuals. It is likely to

attack the weakest points, and for this reason those suffering with functional or organic heart disease, neurasthenia etc., often bear tobacco poorly.

Tobacco is, in many instances, only one of several, or many causes of disease; but its removal may be an important factor in treatment.

Épilepsy, paresis and other psychoses have been attributed to it without foundation; though it is possible that excessive use has predisposed to such diseases. In most cases, the patient does not need the physician for either diagnosis or treatment. In other instances, the cause is obscure, and only the abstinence from tobacco will determine its relation to the disease. In case of doubt the patient should always be given the benefit of such a trial.

The treatment should be entire abstinence. The mere lessening of the amount of tobacco often fails altogether. After abstinence for a year or more tobacco may often be resumed moderately, without harm.

Two of the cases reported were to show how easily tobacco is overlooked as the cause of disease. One had attacks of vertigo, unsteadiness and other nervous symptoms for a long time. An eminent physician had finally diagnosed organic disease. The man had smoked excessively for years. When he came to the writer's charge he was ordered to discontinue tobacco, and he was soon comparatively well.

The other case had vasomotor symptoms of various kinds, insomnia and digestive disturbances, for many years. This patient smoked immoderately from boyhood. He had been in the hands of many physicians, but no attention was paid to his smoking. In this case, too, tobacco was discontinued and the symptoms disappeared as if by magic.

Other cases were reported, illustrating the ill effects of tobacco upon the young.

And here another:2

Is tobacco, when smoked in the form of the paper cigarette, more harmful than using pipe or cigar? is the question; not if smoking is a pleasant and beneficial or disgusting and vicious habit.

It is not my intention to enter into physiological effects of tobacco nor dwell on the sweet solace of the after-dinner cigar, or the keener relish and capacity for mental work afforded through the pipe.

Let us consider, in a commonplace way, if there is a difference between the smoking of a cigar or a pipe and a cigarette, and some of the popular objections; some of importance and others mere senseless objections against it.

A boy or youth should be restrained, directly

1. D: Philip Zermer, Cincinnati, read before the Miss. Valley

^{2.} Read at a meeting of the Medical and Surgical Society of the District of Columbia, December 2nd, 1897. Published in Va. Med. Semi-Monthly, Jan. 28th, 1898.

and indirectly, from using tobacco while his body is developing and when business and social affairs do not bring him to look for the equilibrium that is maintained by its use.

It is claimed that cigarettes are not made of tobacco. If this were so, and tobacco itself bad, it would have to be proven that straw or dried leaves are worse. I have seen no proof that the smoke of the paper is any more injurious than the smoke of tobacco. Cigarette papers do *not* contain arsenic, despite assertions to the contrary.

But the present-day conditions of trade, when everything, from yeast powder to armor plates, must be helped along in the markets, analysis of cigarettes by experts would prevent manufacturers from adulterating their product, to increase its action, with hyoscyamus, jimson-weed, cannabis indica, or opium. They have not only to please the users, but to dread the comparative advertisements of rival firms.

There are some brands of cigarettes on the market that are flavored with cinnamon or capsicum, but the same is true of many cigars. Official reports show that the average cigarette is made of pure tobacco, and that it contains only 1½ per cent of nicotine, while 8½ per cent is in the ordinary cigar.

The cigarette is a mild and pleasant diversion. Why is one called effeminate because he does not smoke the more "manly" cigar? Why should the general custom blame him because it is his pleasure to enjoy the milder smoke when he cannot or does not wish to poison himself with the stronger?

Locally, the cigarette is less harmful to the smoker. The tough, dry, glazed pharynx of the smoker of a strong pipe or cigar is not found in the user of the cigarette. The hot fog of a pipe or cigar work far more decided changes than the thin and cool haze of a cigarette. The cigarette-smoker's throat is moist; he does not hawk or scratch, and if any symptoms are shown they are in the other direction and he will usually have to expel thin mucus, which is apt to settle in the larynx. While the damage is so slight texturally as not to affect the gross appearance of the membrane, the area of action is more extended, owing to the almost universal practice of inhaling the smoke. The cigar, as well as the cigarette, affects the nose, the former being more injurious, but the cigar smoke is hardly ever drawn into the bronchi.

It is popularly supposed that the smoke is drawn into the lungs, which, to the lay mind, is an unknown organ in structure and action. As the bodily movement of inspired air ceases before the bronchioles are reached, and the process completed by gaseous diffusion, the smoke inhaled cannot reach,

in the short inhale, the really delicate structures, and what is deposited is (unless absorbed, which must be to a minute degree, when we consider that it takes a lifetime of city smoke and dust to pigment the pulmonary lymphatics), carried outward, and not inward, by the ciliary action. Protracted over-indulgence can create a purulent bronchial catarrh. Cigars or pipe do not do this, because they are not inhaled; but neither can the cigarette user so far injure himself as to entice an epithellioma. I believe that a census of smoking singers would show a large preponderance of cigarette users, and certainly one can sing with a clear tone after using a cigarette, but not after a cigar.

My statement as to the *comparative harmless-ness* of the local action of cigarette smoke, when used in moderation, is my view as the result of very many throat and nose examinations.

The difference seems to be in the choice of a profound intoxication, at longer intervals, or a transient impression, that can be repeated oftener. It seems to me one is better able to judge his dose by the cigarette. He feels its action at once, when he wishes it, it is gone quickly, and let alone when not wanted; while from the cigar, he feels the full and deep action for hours. Many cannot smoke a cigar, being easily affected by tobacco, without becoming irritable, nervous, depressed and shaky with anorexia and insomnia.

If we allow the fact that one intends to smoke, in what is the cigarette more harmful than the cigar? I see no other objection than the greater liability to the formation of a habit of over-indulgence due to the greater satisfaction from inhaling and the more frequent use permitted on account of smaller separate doses. But are we not too apt to say that one has the cigarette habit simply because his indulgence is more noticeable on account of the frequency of smoking, and not on account of the amount of physiological perturbation? It is altogether a question of the personal equation. One may easily smoke a cigarette every hour, and still not inflict as much damage as another will do with his two or three cigars a day.

He who would dance, must pay for his fiddling proportionate to his pleasure. If he knows enough and is careful enough not to pay too dearly, the user of cigarettes derives as much satisfaction from his smoke with less harm than he who smokes cigars.

Twenty years after these two papers were published at least one State of our Union had a law more or less in force prohibiting the sale of any cigarettes within its borders. Then legislators smoked pipes, chewed or dipped. Now most of them smoke cigarettes!

THE DIAGNOSIS AND TREATMENT OF TINEA INFECTION

THIS sounds too good and simple to be entirely dependable but it is going to be tried out in this general practitioner's practice.

The epidermaphyta cause tinea pedis, tinea crusis and tinea circinata. These three clinical conditions may occur separately or in combination.

Tinea circinata in the first stage shows as red macules or papules one-eighth inch in diameter which gradually enlarge and become wrinkled, glazed or slightly scaly. The individual lesions then unite to form plaques an inch in diameter, which again increase peripherally. The advancing edge more inflamed than the center, shows minute vesicles, sometimes pustules, ruptured vesicles and scales. The center of the lesion gradually assumes a brownish, dry, wrinkled appearance. This may go on to desquamation, healing and formation of a normal skin surface, while the edge continues to advance. So rings or a serpiginous pattern is formed and in some cases concentric rings.

In tinea crusis the lesion is modified by the warmth and moistness of the area, to be whitish and macerated ,and fissures may develop in the borly folds. As the lesion spreads down the thighs from the groin, it takes on the appearance of tinea circinata.

In tinea pedis there is marked maceration of the horny layer of the skin giving rise to a thick layer of dead white skin in the interdigital spaces. Fissures are usually present beneath this macerated skin. If the infection spreads to the dorsum of the foot it takes on the appearance of tinea circinata.

Microscopic examination of the scrapings should be made for the presence of mycelium. Treatment must not be instituted until this has been done, as treatment makes a negative finding worthless. A small amount of 15% solution of sodium hydroxide is placed in a watch-glass and a few scales or preferably the roof of a vesicle placed therein for two to three hours. The debris is then examined under the low power of a microscope for the presence of the branching mycelium, then under high power. The lines of juncture of normal epidermal cells must not be mistaken for the mycelium which may be seen crossing them. Culture of the fungus may be made by soaking a portion of the scales in 95% alcohol for 30 minutes to destroy bacteria, and then implanting it on Sabouraud's proof medium. If the fungus is not revealed at the first examination, repeated search should be made for it.

In tinea cruris the maceration and the apposition of skin surfaces prevent the fungicide from coming into contact with the fungus over the whole area. In tinea pedis this is even more marked because of the close approximation of the skin surfaces and the thick layer of macerated skin commonly present.

TREATMENT

Tinea circinata—An aqueous lotion of chrysarobin 3% is painted on once a day for three days, repeated if necessary after an interval of four days.

Tinea cruris—Chrysarobin 3%, alcohol 5%, water to 100% is painted on for three days and followed by lotio calamini or dusting powder for four days, repeated if necessary.

Tinea pedis—A 1% aqueous solution of gentian violet is painted on twice daily for one week and repeated as necessary or alternated with picis carb. 5%, salicylic acid 5% in water to 100%. Whitfield's ointment is used for three days where dry scaling is produced.

Applications should not be changed unnecessa-

The commonest cause of unsuccessful treatment is overtreatment.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., Editor, Greenville, N. C

MILESTONES IN NORTH CAROLINA PUBLIC HEALTH

(Continued from last month) 1939

In the Division of Sanitary Engineering, John D. Faulkner returned to the department to resume his work after taking a year of public health engineering training at the University of Michigan.

Mr. James P. Stowe of Charlotte, for many years a member of the State Board of Health, died on February 12th. The Governor lated appointed Mr. C.C. Fordham, Jr., a Greensboro druggist who promptly qualified as a member of the Board.

On December 15th, Dr. George M. Leiby, venereal disease consultant, resigned his position with the Division of Epidemiology to accept the position of director of venereal disease control in the City of Washington, D. C.

On June 13th, Dr. H. F. Easom resigned as director of the Division of Industrial Hygiene to return to the N. C. Sanatorium as clinic physician. He was succeeded, effective October 15th, by Dr. T. F. Vestal, a native of Randolph County, formerly a member of the Sanatorium clinical staff.

During the year, construction work was started on the new central Laboratory on Caswell Square adjoining the administrative building of the State Board of Health. Also, construction work was begun on the buildings on the State Laboratory farm

^{1.} R. W. Carslaw. Medical Press & Circular, 208: 376, 1942, via Current Med. Dig., April.

between Raleigh and Cary.

In the Division of Preventive Medicine, Mrs. J. Henry Highsmith resigned her position as health educator, effective October 1st.

In the early months of the calendar year of 1939, plans were matured after two or three years' efforts, for the establishment of a service through which the facilities of the State Department of Education and the State Board of Health for the execution of a unified health service in the public schools of the State might be further integrated. Inauguration of this plan was made possible by a supplementary grant of \$50,000 by the Rockefeller Foundation and the General Education Board to be spent over a five-year period, commencing July 1st, 1939. The official designation of this organization is the N. C. School Health Coördinating Service. The operating staff consists of the following seven members: Dr. Walter Wilkins, coördinator; Miss French Boyd, nutritionist; Mr. Charles E. Spencer, physical education; Miss Olive Brown, physical education: Miss Mac-Veigh Hutchinson. nurse; Dr. Walter Hughes, Negro physician; Mrs. Irma N. Henry, Negro health educator.

Dr. John F. Kendrick was lent to the State by the Rockefeller Foundation to serve temporarily as administrative adviser to the school health co-

ordinating unit.

This was the first full fiscal year in which the sum of \$100,000 donated by the Zachary Smith Reynolds Foundation to aid the Board of Health in its syphilis control work was available.

The total expenditure for the State Board of Health for the fiscal year ending June 30th, 1939, were \$1,215,056.80. Of this amount \$364,506.25 was appropriated by the Legislature, \$232,993.80 by the United States Children's Bureau, \$311,-859.00 general and \$51,829.11 venereal disease by the U. S. Public Health Service, \$130,290.49 by the Zachary Smith Reynolds Foundation, and \$123,578.15 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

DETACHMENT OF THE CHOROID FOLLOWING INTRACAPSULAR CATARACT EXTRACTION

ACCORDING TO FUCHS, detachment of the choroid occurs in 4 per cent of the cases following cataract extraction. The majority of these detachments are small but some are extensive enough to protrude into the vitreous crossing the antero-posterior diameter of the eye. It is probable that the majority of oculists who do cataract surgery do not find as high a percentage of choroid detachments

as given here, for the reasons that an ophthalmoscopic review of the fundus is not often done in the first 8 or 10 days following operation, and if the detachment is small and in the anterior segment of the eye it may be overlooked even though an examination of the fundus is made. Further, if a fundus examination is deferred until the 10th day after operation a detachment that had existed could have become reattached leaving no visible evidence of its presence.

Etiology-The consensus is that the ligamentum pectinatum is injured at the time of operation allowing the aqueous humor in the anterior chamber to filter into the space under the choroid pushing the choroid toward the vitreous. Hemorrhage from rupture of sclerosed choroidal vessels may likewise produce it. In neither instance is the surgeon wholly responsible for its occurrence. In the first instance a smooth, careful extraction may be made without visible evidence of any complications and yet a minor injury to the ligamentum pectinatum may occur which will produce the detachment. This would appear more likely to occur where degenerative changes in the anterior structures of the eye are present. In the second instance the operator is powerless to prevent the hemorrhage in the choroid.

Symptoms and signs suggestive of detachment of the choroid.—Subjectively the patient may complain of a dull heavy feeling within the eye simulating a low degree of pain. Objectively there may be hemorrhage in the anterior chamber, the margins of the wound at the limbus may be swollen, the anterior chamber shallow, and the globe soft to palpation. Ophthalmoscopic examination of the fundus, if the detachment is large, will show a smooth, rounded, non-fluctuating, brownish gray mass protruding into the vitreous and usually extending from either the nasal or temporal half of the fundus, rarely from above or below. Direct illumination of the pupil will also show a large detachment.

Differential diagnosis must be made from detachment of the retina which will be seen as ribbon-like grayish folds which fluctuate with movement of the globe with the retinal vessels bending into the depths of the folds. The retinal mass is usually below. From preëxisting sarcoma of the choroid mainly via transillumination of the globe over the mass which casts a shadow, by gradually increasing intra-ocular pressure and without tendency for the mass to abate.

Treatment: None other than keeping the patient quiet until the reattachment of the choroid occurs. Keeping the head turned toward the side of the detachment seems to promote a more rapid recovery, and mydriasis of the pupil.

Prognosis: Good. Reattachment usually occurs in 6 to 10 days leaving no visible evidence of its occurrence and little if any adverse effects on vision.

Case Report: A white farmer, aged 55. Senile cataract each eve, the right the more advanced Special factors relevant to the eves good, and general physical condition excellent. Under local anesthesia and good akinesia an intracapsular extration with small iridectomy was done on the right eye via keratome and scissors incision. The operation was smooth and uneventful and no immediate post-operative complications were evident. On the 8th day after operation the patient complained of having experienced a dull ache in the globe during the night. The eve showed no abnormal reaction, but the anterior chamber was shallow and the globe soft. The ophthalmoscope showed a large smooth brownish mass protruding into the vitreous from the nasal side of the fundus and extending to the temporal edge of the optic cup. The mass did not fluctuate and transillumination of the globe over it was clear.

Treatment consisted of keeping the patient quiet and for the most part with head inclined to the left, hot moist compresses, and atropine 1 per cent solution, aqueous, b.i.d. to maintain full dilatation of the pupil.

On the 12th day following the detachment reattachment was complete, intra-ocular pressure normal, and the only evidence of the detachment was a few scattered areas of pigmentation in the retina at the site of the previously detached choroid.

Three weeks since the date of the reattachment the progress of the eye continues to be satisfactory.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M. D., Editor, Charleston, S. C.

SULFA DRUGS AND MASTOIDITIS

THE OTHER DAY a competent otologist said to me: "I have not done a single mastoidectomy all winter." A whole winter of busy otologic practice and not a single mastoidectomy on a private patient! That, in itself, puts the drugs permanently in our armamentarium if they had no other use. However, we must be awakened to the dangers of this two-edged sword. The mastoiditis we do have is masked and more treacherous and more serious than in pre-sulfa days. Some of our general practitioners and pediatricians are giving small, piddling doses of sulfa drugs and filling ears of all comers with dehydrating oils. This line of treatment tends to mask all symptoms and signs of ensuing mastoiditis. Whether the ears open spon-

taneously or not makes no difference as to the effect of sulfa drugs.

We must learn the symptomatology and pathology of mastoiditis all over again. Indeed, in the cases of my experience there were no clear-cut indications for operation until late in the development of the disease. The history is of great importance, especially where the otitis has gone on sometime before the otologist is consulted. A little fever at times during the day or night, restlessness, headache, more likely noticeable at night, malaise and continued otorrhea; dizziness may or may not be present. Tenderness over the mastoid may be discernible only at times. Some of these symptoms may be present in the course of the disease, but they are rarely present to any marked degree. The mastoiditis runs an insidious, almost asymptomatic, course in spite of progressive necrosis. Xray examination is of little help, especially in voung children.

Although there is little mastoid edema or tenderness and the x-ray picture is non-committal, on operation the surgeon is shocked to find necrosis involving the entire mastoid, way into the petrous and forward into zygoma. In each instance at operation the surgeon marvels that there could be so much pathologic anatomy with so few symptoms. The bone destruction may involve the entire extent of the mastoid with a great deal of granulation. Surprisingly, too, there may be peninsulas and islands of normal bone extending right into areas of complete destruction. Many of these processes are hemorrhagic.

The possibility of silent mastoiditis must be constantly in mind in each case of otitis media. We must learn our chapter on mastoiditis all over again and while this chapter is not yet written we know to be on guard:

- "1. When the ear discharges for 4-6 weeks despite intelligent treatment.
 - 2. When headaches and dizziness are present.
- 3. When there is mild toxicity and malaise.
- 4. When there is a loss of hearing.
- 5. When there is facial palsy."1

1. Wolf, George D., and Capers, Bertrum. N. Y. State M. J., 42:175g, 1942.

PEDIATRICS

EYE INJURIES IN THE HOME

We need to be constantly reminded of the preventive and curative care of eye injuries. An excellent reminder¹ is abstracted.

Superficial injuries may be caused by a child inadvertently scratching a parent's cornea, or by a

^{1.} Mortimer Mann, Indianapolis, in-Jl. Ind. Med. Assn., May.

newspaper brushing across the eyes. The epithelium is denuded and the eye will stain with fluorescein. Put the eye at rest by applying a tight eye dressing which will hold the upper lid against the globe. Any of the local eye anesthetics will relieve the scratching if the dressing doesn't. To guard against secondary infection instill 5 per cent sulfathiazole ointment.

Any injury to the stroma heals with scar formation. The extent to which sight is affected depends on the location of the scar and its density. Proper and prompt treatment will keep down the size of the scar by reducing the inflammatory reaction and its duration. There is always some degree of iris and ciliary irritation in a deep injury of the cornea, so the pupil should be kept dilated with homatropine, 2%.

In some instances the foreign body is so small that the site of the perforation is almost immediately sealed off, and the patient consults a doctor only because his eye remains irritable. Practically every perforating injury requires surgery either to repair the damage done or to remove the eyeball and thus protect the fellow eye from a sympathetic inflammation. Any eye that might contain an intraocular foreign body should be x-rayed even if only for medicolegal purposes.

Chemical burns produce serious ocular injury. Many people keep acids, caustics, caustic mixtures of ferric chloride and corrosive sublimate in the house. Any one of these agents can cause severe damage to eye tissues, the alkalis far the worst. Ammonia is found in nearly every home. Burns from this agent are very severe. Sulfur dioxide and other refrigerants are capable of producing serious burns.

Lye burns of the eye are common and disastrous. There is no suitable agent to neutralize. Prognosis must always be guarded.

If the chemical is still in solid form remove all visible particles. If the agent is lime, irrigate the eye with 4-10% ammonium chloride. Ammonia burns are best treated with frequent saline irrigations and paracentesis; the ammonium hydroxide in the anterior chamber must be eliminated. Paracentesis may have to be repeated until the aqueous no longer contains any of the alkali. This is probably a good procedure for any burn of the cornea. Burns from sulfur dioxide and other refrigerants should be treated with olive oil or 3% sodium carbonate in 75% glycerine, since these chemicals are insoluble in water. In all cases atropine should be instilled and bland ointments liberally applied. A glass rod can be used to break up early adhesions. Late sequelae of burns include symblepharon, corneal opacification with or without vascularization, and secondary glaucoma. Transplants are not successful. The accompanying burns of the lid and face are not to be neglected.

Contusions vary in severity from a subconjunctival hemorrhage to rupture of the eveball. Little can be done to hasten the absorption of a subconjunctival hemorrhage. Cold compresses in the first 48 hours, followed by heat on succeeding days, is probably the best treatment. Tears in the conjunctiva do not require suturing unless the wound is very large with wide separation of its edges. Folds or tears may be observed in Descemet's membrane, and if there is blood in the anterior chamber the cornea may become blood-stained. The sphincter of the iris can be temporarily or permanently paralyzed. Traumatic iridoplegia is usually temporary. An iridocyclitis often occurs which responds readily to treatment if there are no other complications. Another effect on such trauma is rupture of the iris or separation of the iris at its base, producing one or more additional pupils.

The eyeball may become so soft that its tension cannot be measured with a tonometer. Nutrition of the lens is impaired when the ciliary body does not produce enough aqueous to maintain a normal tension. A cataract may also develop immediately following the trauma. Contusions may cause a partial or complete dislocation of the lens. Slight subluxations will produce no immediate visual disturbance. Always look for tremulousness of the iris in any contusion of the globe. Management of lens injuries is not covered in this paper. Each case is a problem to itself.

The effect of contusion on the posterior part of the eye can only be determined by careful ophthalmoscopic examination.

Tears in the choroid are common since this vascular membrane has no elasticity. The retina will yield slightly. Tears in the retina may be followed by retinal detachment. If one occurs in the region of the macula, there may be permanent loss of the central vision. The detached area sometimes reattaches itself, but usually surgery is necessary.

A contusion can activate a latent inflammatory process in an eye. Interstitial keratitis in cases of both congenital and acquired syphilis have been known to start immediately following a minor injury.

If parents can be impressed with the importance of not leaving sharp-pointed objects within reach of youngsters, a common source of perforating injuries can be prevented. Firecracker injuries have been eliminated as a result of many state laws, and we hope that they will never return. It is surprising how seldom ocular injury, even in young children, is sustained from glasses.

THE CHOICE OF TIME AND TYPE OF OPERATION IN SURGERY OF EARLY LIFE

ALL or us want to know what to do as to conditions in infants which require surgery for cure, what to do right now and when to send for surgical operation. Here is sound advice.¹

When an inguinal hernia has been diagnosed in a small infant, the question at once arises as to whether an operation should be done and, if so, what type of operation. In infants the truss has a distinct field of usefulness, although it is seldom or never curative. It is used to hold up a hernia or to prevent strangulation or incarceration during periods of sickness or feeding difficulties during the first year. The only one that has proved useful in our hands is the simple yarn truss, easily applied, always available, is inexpensive and can be kept clean by daily washing. Most parents can be instructed in a few minutes about the details of its application, and can carry out the treatment successfully at home. In instances in which the truss is ineffective due either to the size of the hernia or to the lack of aptitude of the parent, operation is then resorted to regardless of age. Youngest patient operated on by the author for a strangulated hernia was a month-old baby who had been born two months prematurely, uncomplicated convalescence and a permanent cure.

Transposing the cord should not be done in infants or young children, although satisfactory in older children or in adults, because of danger of pressure on the spermatic vessels with resulting atrophy of the testicle.

Some surgeons still advocate postponing the operation for the cure until the child is seven or eight years old, for fear of sepsis in the wound from soiling with urine. This can easily be avoided by applying a small collodion dressing to the wound and then when the child is placed in the crib, his four extremities are tied to the four corners of the crib sufficiently tight to prevent him from pulling off the dressing or turning over, but loosely enough to allow considerable motion. A fracture cradle is placed over the infant and one end of a diaper is placed under his buttocks and the other end is pinned to the top of the fracture cradle. A diaper so placed catches all urine voided from an infant of either sex and keeps the dressing completely dry.

If the use of the yarn truss proves effective and is well tolerated by the parent and the child, the operation can be more easily done after the first year and should be delayed longer than that time by the surgeon who operates only occasionally on infants. The vast majority of infants in their first year of life that come to our clinic for the relief of umbilical hernia are never operated on for this condition. An umbilical ring which will just admit the tip of the little finger and whose sac protrudes a half to an inch is almost always cured by strapping with adhesive. Tongue-and-slot strapping is easiest for a parent to apply at home. The common practice of inserting a coin or a button into the ring is illogical. It is like putting one's foot in the jam of a door and trying to close the door. Umbilical hernias larger than that described or those in which strapping has proved ineffectual require operation.

The larger defects of the umbilicus which are seen at birth, caused by an arrest in development and covered only by membranes should be operated upon as soon after birth as possible.

Remember that diaphragmatic hernia is one of the causes of cyanosis, circulatory collapse, or vomiting in the newborn, and send patients promptly for surgical intervention. The optimum time for surgical intervention is in the first 48 hours of life before the intestine has become distended. In preparing the patient for operation give vitamin K or a small transfusion, gastric suction, insert a rectal tube and place in a tent with a high concentration of oxygen in order to reduce to a minimum the distention of the intestine. Cyclopropane anesthetic is best, its disadvantage is its inflammability.

Congenital atresia of the alimentary tract may occur at any level from the esophagus to the anus, and all cases require operation at the earliest possible time. In case of imperforate rectum and anus, variations in the malformation can be demonstrated by the x-ray examination without the use of contrast media. When in doubt as to the best approach, do a laparotomy and a simple colostomy at the first operation.

Until very recently atresia of the esophagus has carried with it a 100 per cent mortality. The main causes are starvation and aspiration pneumonia.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M.D., Editor, Greenville, S. C.

EPIDEMIC MENINGOCOCCUS MENINGITIS

MENINGITIS has reappeared in epidemic form just about as it did in the last war. This time the sulfonamides have improved the outlook as much as the antimeningococcus serum did before. The mortality has been tremendously reduced. The sequelae, too, have almost disappeared. The disease is just as severe as any seen by the writer during the previous epidemic. The cases seen here have, for the most part, been of the fulminating type; so

^{1.} Wm. E. Ladd, B ston, in Penn. Med. Jl., April.

the advance in treatment is real. The cases seen in the Greenville General Hospital this spring have uniformly recovered. The following observations might be worth while noting.

First, using the same relative amounts of sulfathiazole or sulfadiazine that one would commonly use in patients of the same weight with pneumonia, the blood concentrations have been found to be much higher. In other words, the adequate level is very much more quickly and easily reached. This probably accounts for the fact that some observers have felt that the level does not matter. From my observation, the level is more easily produced with a smaller amount of drug in this disease than in pneumonia.

Second, the throat cultures when positive at first are inclined to remain positive even after the patients have been afebrile and are otherwise ready to be discharged from the hospital. It is rather disconcerting to keep in an overly-crowded ward patients who look and feel to be perfectly well, because their throat cultures remain positive. Apparently, the sulfonamides have no greater effect on the positive cultures in the throat than had the antimeningococcus serum in the past. With this in mind, we are culturing the throats as soon as the patient becomes afebrile. If the results are positive, then a 0.4 per cent aqueous solution of bismuth violet is used as a spray in the nasal passages and throat. After three days this is discontinued, after two more days cultures remade and they are usually negative. It is to be emphasized that throat cultures remain positive even when a dramatic cure of the disease itself has been effected with the sulfonamides, so the carrier problem is still with us and should not be overlooked.

Third, one lumbar puncture only is done and that for diagnosis.

Fourth, as soon as the patients are admitted, if they are not able to take an abundance of foods and fluids by mouth, a nasal catheter is inserted through which the patient can be adequately fed and the medications administered. This innovation has proved particularly effective in so far as there is but little drop in the patient's state of nutrition. Further, the ordeal of giving fluids and medications by vein is avoided. The patients leave the hospital in very much better physical condition since they haven't missed a meal. By using the nasal catheter, epidemic meningococcus meningitis can readily be treated outside of the hospital with comparatively inexperienced help.

HERNIA

(Major-General C. Max Page, in Proc. Royal Soc. of Med. (Eng.), Feb.)

This discussion is limited to a consideration of inguinal hernia. Discussions of the radical cure of this type of

hernia and the evidence on the results of operation are disconcerting. There are two schools—that of the hammer and that of harmony. The hammer schools says: Here is a pathological condition of which the surgical cure too often fails: let us therefore in all cases at the onset do all we can to reinforce the inguinal canal. The method chosen may still be an operation of the Bassini type; or filigree, fascia or floss silk may be fully employed. The harmony group gives the normal inguinal sphincter full credit and limits the operation to the removal of the open sac and the repair of any damage which may have been done in the approach.

The follow-up of a large number of hernia cases over a two- or three-year period by personal examination is difficult.

The fact that most recurrences are indirect hernias—reproductions of the original—shows that the weak spot is at the site of ligation of the sac. Some due to failure to find the sac originally, or to inefficient ligature of the neck. In several cases scarring was found at the fundus, indicating that the peritoneal sac was an entirely new one. Such a sac can develop more quickly than is generally supposed. I have operated on cases which have developed such a sac within 12 months after the first operation. The sac should be completely excised, flush with the peritoneal cavity.

In the young muscular subject the best operation we can offer is complete excision of the sac with repair of the transversalis fascia, without disturbing the cord in its bed.

When the internal ring has been considerably stretched by a large scrotal hernia in older subjects the position is not so clear. Reinforcement is necessary, and best achieved by turning down a flap of the anterior sheath of the rectus or by the use of the fascia lata. A further strengthening may be obtained by reposition of the cord, in front of the resutured external oblique.

For direct hernias, repair of the defect will always be needed, and here a local fascial flap, or fascia lata, will be required. The funicular type of direct hernia can easily be missed unless the operator is mindful of the possibility.

IMPORTANT ADVANCES IN OBSTETRIC THERAPY

(W. R. Cooke, Galveston, in II. Mo. Med. Assn., Oct.)

The intravenous use of magnesium sulfate in eclampsia may well be regarded as the greatest improvement in obstetrics of recent years. The diagnosis of eclampsia having been established, 2.0 Gm. of magnesium sulfate are injected, 10 c.c. of a 20% solution. The dose may be repeated every three hours, the total dosage in 24 hours not to exceed 16 Gm. Large doses of glucose intravenously are of great value. At the end of 24-72 hours the shock and exhaustion have been compensated for and the pregnancy can be terminated by appropriate means.

The intravenous use of ergotrate in the management of and prevention of hemorrhage in the third stage of labor is also a great improvement. The essential point in technic is that the injection be made as the head is crowned, when it is certain that no obstacles such as contracted outlet will interfere with immediate delivery.

TOXEMIAS OF PREGNANCY.—Of all hypotheses of the cause, the hypothesis that the toxin arises from the products of conception seems still to hold the highest degree of probability. It is the only hypothesis upon which all clinical and laboratory findings converge, and conversely, it is the only hypothesis that will account for all the clinical and laboratory findings.—La Vake, II.-Lancet, Feb.

CLINIC

 $\label{eq:conducted_by} $$I_{\rm REDURICK}(R, Taylor, B.S., M.D., FA.C.P., $$$High Point, N. C.$

On Oct. 29th, 1929, a 22-year-old tilesetter, who complained of cough and a tight feeling in his chest, was referred to me by his physician. The patient stated that 6 weeks ago he had had pain in his right shoulder lasting 2 days. It was localized pretty strictly to the shoulder region. His physician told him he was run down. He did not feel sick or feverish. Two weeks later he found himself getting gradually short of breath on exercise. He was comfortable at rest. Walking seemed to cause his dyspnea more than other kinds of exercise. He thought the dyspnea was due to a bad cold. His physician sent him home. He stayed in bed a week, his dyspnea decreased, and has kept decreasing since getting up, though his cough is getting worse. No hemoptysis. Appetite poor for last 6 weeks. He has lost 8 lbs. in that time. His bowels ordinarily move daily, but for the past 4 weeks have moved twice daily. No sore throat except for a little for half a day 3 days ago, which he attributed to sitting on cold concrete. Cough seems substernal in origin. No edema noticed. Some occipital headache almost daily since onset of illness. none before. Some lumbosacral backache for past 4 weeks. All his life he has been troubled with frequent voiding of small amounts of urine. He had enuresis till he was 8 years old.

Seven years ago, in Bladen County, he had an illness that started with a continuous fever that lasted a week. A physician told him he had a mild touch of malaria. Patient doubts if he was given quinine at this time. He received a blow over his left eye in a wreck 3 years ago that caused no fracture, but knocked him unconscious for about one day. He apparently recovered completely from this. His past history is otherwise unimportant.

His habits are in general good, except that he has smoked excessively—40 cigarettes daily. Since he got sick, he has been trying to cut this down. His family history throws no light on his problem.

A thin, pale, young man with a slight flush on his cheeks, gums spongy, head otherwise negative, neck negative, t. 99.2, p. 100, r. 22, b. p. 112/74. Much variation in force of beats noted while taking blood pressure, but no true alternation. He has a rather hoarse brassy cough. There is no tracheal tug. The pulse is peculiar in that it speeds up suddenly from about 80 to 100 per minute and stays at 100 irrespective of the respiratory cycle. The chest is rather long and narrow with prominent bones. There is a very conspicuous apex beat in

the 5th interspace, about a finger's breadth outside the left clavicular line. No thrills. The peculiar variation in rate noted in connection with his pulse was noted repeatedly during the heart examination -a sudden slowing that was not very marked, for a few seconds, after several minutes of a rate of 100. Heart borders on percussion: Left is a finger' breadth outside left midclavicular line. Upper is in 3rd interspace. Patient is of ptotic build. Right border is about a finger's breadth to the left of the left edge of the sternum—the whole heart is pushed over to the left. (The patient's physician previously reported dullness going to the right of the right edge of the sternum, which led him to believe that the heart was dilated. No murmurs. The sounds at the apex are fainter at full inspiration, and the apex beat is less strong, as if the lung encroached on the heart area to an unusual degree. Expansion seems about equal on the two sides (!) (I suspect my own observation to be faulty here.) There is little difference in the percussion resonance of the two lung areas, but on the left, the breath sounds are loud, blowing, and of an emphysematous character, whereas they are almost absent on the right side. Whispered pectoriloguy is extraordinarily loud over the right base, anteriorly and posteriorly. There is some tenderness in the left kidney region in the back. The abdomen was essentially negative, as was rectal examination. The extremities show nothing except a mild epidermophytosis of the toes.

The urine was entirely negative except for the following note: "There are, however, some rather unusual looking cells that do not seem quite like ordinary epithelial cells. One wonders if they could be bits of malignant tissue. They are seen singly and in groups of 3 or 4 cells."

An electrocardiogram showed marked right axis deviation. In every lead there was a variation in amplitude of the complexes, especially in QRS 3. A slight sinus arrhythmia was noted. The rate in all leads was about 100. The P waves were of rather unusual interest. They were of such low amplitude in lead I as to be practically absent, but of extraordinarily high amplitude in leads II and III. T_1 and T_2 were low and broad, T_3 diphasic.

Discussion. The history of this case, the peculiarities in the pulse, heart rate and electrocardiogram, all might lead the unwary to consider that this patient's trouble was primarily cardiac. However, a careful physical examination showed clear evidence of extracardiac trouble in the chest, and the cardac phenomena were due to the extracardiac trouble. The physical signs showing displacement of the heart to the left, loud breath sounds on the left, almost absent sounds on the right, yet with no decrease in percussion resonance, all pointed to spontaneous pneumothorax, and röntgenologic ex-

amination of the chest at the Guilford County Sanatorium for Tuberculosis proved this diagnosis. There was no evidence of tuberculosis. The patient made a spontaneous recovery. It is not unusual for spontaneous pneumothorax to occur in an otherwise healthy patient through the rupture of a little bleb on the surface of a lung. The onset may be fulminant with severe pain and very extreme dyspnea, or gradual, as in this case. In all but the very severe cases, assuming there is no other pulmonary or other pathology the treatment may be summed up in Dr. John B. Deaver's phrase, "masterly inactivity." In the very sepere cases, removal of the excess air pressure in the pleural cavity by aspiration is indicated, as extreme intrathoracic pressure may cause death if not relieved. Such extremely severe cases should be considered as urgent emergencies, and dealt with promptly.

ROENTGEN TREATMENT OF ACUTE BURSITIS OF THE SHOULDER

(J. H. Harris, Harrisburg, in Penn. Med. Jl., April)

Acute calcified bursitis of the shoulder is a painful and disabling condition. Trauma is the most important etiologic factor; a single severe one, or many slight injuries causing minute hemorrhages in the tendons. The calcification is usually in the tendon of the supraspinatus muscle, at times it is in the subacrominal bursa. The pain radiates down the arm to the elbow and occasionally to the fingers, also upward to the cervical area. Any motion causes pain, but abduction brings on the severest pain.

Films show varying amounts of calcification in the soft tissue in the region of the subacrominal or subdeltoid bursa. Take films in at least three projections about the shoulder joint. The severity of the symptoms bears no

relation to the amount of calcium present.

Chronic stages of the disease are seen in which the symptoms are much less severe. Limitation of motion exists, and discomfort is aroused by attempts to exceed these limitations.

The medical men will use salicylate, heat, vaccines, diathermy etc. The surgeons will inject novocain, or wash out with a large needle, or will open the area and remove the calcium. The radiologist will use x-ray therapy. In the past four years, I have so treated 40 cases with gratifying response. The acute cases give the best results. The chronic cases are improved, but I am inclined to believe they are an orthopedic problem and should be handled accordingly.

MORPHINE SULFATE AS AN OBSTETRIC ANALGESIC

(Wm. F. Mengert, Iowa City, in Amer. II. Obs. & Gynec., 44: 888, 1942)

Morphine is the best analgesic drug for obstetrical use. The drugs usually employed in reasonable dosages during labor generally produce amnesia rather than analgesia.

It is only when the drug is administered to the parturient woman within two to three hours of delivery that respiratory embarrassment may be anticipated.

The employment of morphine sulfate as an obstetric analgesic is not without some risk of postnasal, fetal, respiratory difficulty. This, however, is readily combatted by the usual resuscitative measures.

The administration of morphine during the second- and third-hour period preceding delivery probably should be avoided.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

COMPLICATIONS FOLLOWING SPINAL ANESTHESIA

ANY ANESTHESIA may be followed by complications. In evaluating them we must take into consideration the patient's general physical condition, also, his mental status—his suggestibility and disposition to make the best or the worst of every situation of life.

Another factor to be considered is the method of administration. One skilled in the administration of an anesthetic will have fewer complications

than will one lacking this qualification.

Occasionally a patient will complain of pain in the back which he attributes to spinal anesthesia. Since spinal anesthesia does not cause pain in the back, a careful investigation of these complaints is worthy of consideration. We have carefully noted complaints in which the patient attributed certain pains or aches to spinal anesthesia and have found these to be few in number. As people become more and more familiar with this form of anesthesia the complaints have dwindled to an occasional instance.

After any surgical operation pain in the back is not an uncommon thing and, while it may be troublesome, as a rule it is not very distressing and

gradually clears up.

Pain in the back does not persist after spinal anesthesia. A few doctors, and once in a while a patient, will attribute pain in the back to the fact that a needle was used to administer the anesthesia. In discussing such cases I have often noticed a natient point to the location of the pain at some spot quite distant from that of the spinal puncture.

My experience has been that we have less back pain after spinal than after any other anesthesia. To attribute pain in the back to a spinal anesthetic is farfetched and certainly not correct, with the exception of a certain amount of backpain which may follow any operation, with relaxation of the back muscles during the course of the anesthesia; although it is a question whether even this causes the symptom.

Occasionally a patient will get the mistaken idea that spinal anesthesia will cause nervousness or muscular weakness, or even paralysis.

When properly administered spinal is, in my opinion, the safest and best anesthesia we have at our command. It has reduced the mortality in surgery tremendously. Complications have been brought down to the minimum and there are prac-

tically no after effects from the anesthetic. Complications may follow any operation but in many thousands of operations done under spinal anesthesia we have noted that the complications have been less frequent than when any general anesthetic was used.

Other anesthetic agents have their special fields of usefulness, depending upon the peculiarities of the patient and the condition, and these are used when it is best for the patient. However, our experience with spinal anesthesia has been so satisfactory and the complications so few that we have come to the conclusion that when properly administered spinal anesthesia is the safest and best of all to use for practically all surgical operations below the diaphragm.

Caudal anesthesia, administered continuously so as to give the patient continuous freedom from pain, has come into favor for relief of pain during labor.

During severe shock; e. g., in ruptured ectopic pregnancy with loss of considerable blood, we have used spinal anesthesia routinely for many years, and we are happy to report prompt recovery and entirely satisfactory outcome in each case.

Our records show that a number of patients brought to us in extreme shock and hemorrhage, with blood pressure very low and in a condition of marked anemia, were given spinal anesthesia, the head kept lowered thereby enabling the blood supply of the central nervous system to be kept ample, and all these patients did well. In addition to the surgical treatment in which the bleeding vessels were tied off and the blood removed from the abdomen, they were given blood transfusions and blood plasma or whatever was necessary at the time, and by replacing the blood lost, prompt recovery followed.

Recently in operating upon a lady 94 years of age with a severe fracture of the hip, spinal anesthesia was used. The patient went through the operation without any sign of shock; there was no pain and she made a good recovery and was able to leave the hospital in due time.

Any anesthetic should be given by one who is quite familiar with its use and well trained and experienced in the whole subject of anesthesiology.

Untoward results following anesthesia may not be the fault of the anesthetist, but it is certain that most complications during the course of an anesthesia are to a great extent avoidable when the anesthetic is given by a well trained and experienced anesthetist.

Proper preoperative medication is important in any form of anesthesia. In spinal anesthesia it is especially important and has much to do with the results. This, of course, is an individual problem in each patient. Continuous spinal anesthesia for prolonged operations, especially gastric operations where more than the ordinary time is required, is a valuable addition to the methods of administering spinal anesthesia. We are indebted to Lemon for the development of this method. It permits the maintenance of spinal anesthesia to any required degree over a period of time for which the average single injection would not maintain relaxation for a sufficient length of time.

All standard methods now in use among us have their special indications, but for the vast majority of abdominal work there is no other anesthesia quite so satisfactory, so safe and so free from complications, during and after operation, and from after effects, as that produced by a properly administered spinal anesthetic.

ON CONTACT DERMATITIS

(W. T. Vaughan, Richmond, in Sou. Med. Jl., May)

The three principal forms of subacute and chronic dermatitis associated with allergy are a) contact dermatitis, b) neurodermatitis, which has more recently been termed atopic dermatitis, and c) dermatitis associated with drug allergy. This last takes many forms, including exfoliative dermatitis, erythema multiforme, morbilliform and scarlatiniform lesions and urticaria.

Soap is a natural irritant and should be avoided in any dermatitis. Furthermore, one may become sensitized to soaps. Much of the so-called wool dermatitis in the military services is said to be due to soaps which have been insufficiently washed out of heavy woolen shirts.

The accepted method of determining the offending allergen is by the 48-hr. patch test. Sometimes a strong reaction occurs in a few hours while in other cases several days' contact is required. Soap, for example, is sometimes applied in too concentrated form, being irritating it should be made into a weak solution, about what one has when blowing soap bubbles. A positive reaction does not prove that the substance tested is the chief source of trouble. If some substance strongly suspected is negative and no other allergen can be found, therapeutic trial by avoidance should be undertaken.

Local treatment must always be considered a possible incitant of more trouble. In many cases, the dermatitis is kept active because the patient has become sensitized to the ointment or other preparation used locally. When the lesion appears to be improving and then becomes worse for no apparent reason, always suspect sensitization to the local medication. The simpler the materials used locally, the better and the patient is especially fortunate if local therapy can be dispensed with altogether.

THIZODRIN

Intranasal application of the sulfonamides has been attempted by a number of clinicians, usually by insuffation, or as suspensions of the drugs in solution. Turnbull (J. A. M. A., 116:1899, 1941) concluded that the sodium salt of sulfathiazole was particularly beneficial in staphylococcic infections, and subsequently combined an improved, stabilized solution containing the drug with d, 1-desoxyephedrine hydrochloride as a vasoconstrictor. This has been used in a large group of patients, most of whom responded satisfactorily. Patients were treated by means of tampons saturated with Thizodrin (Sodium Sulfathiazole and Desoxyephedrine, Lilly), and by spraying or dropping the solution into the nose and throat. The product has now been made commercially available.

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

HIGH BLOOD PRESSURE

SEVERAL YEARS AGO, in a meeting of the State Medical Society, I expressed the opinion that the invention of a means of recording blood pressure probably did mankind more harm than good, and the professor of medicine of one of our oldest and greatest medical school expressed himself as disposed to agree with me. Experiences in general practice, undertaken as a means of helping in the war effort, seeing a great number of patients and hearing their stories has confirmed me in that opinion. It was no less than astounding to hear from day to day, from hour to hour: Doctor, I just came to get you to take my blood pressure. I've had high blood pressure (for this or that number of years) and I want to know how it is now. And a good percentage of those who did not make this complaint, reported themselves as having had the diagnosis of low blood pressure. Not a few said "Doctor, I've got the blood,"

A sphygmomanometer simple and cheap enough to be used generally was invented some 50 years ago, and its popularity as a means of affording a reading which would supply a diagnostic label and a reply to the inquiry, "What have I got, Doctor," has grown by leaps and bounds. And the name of the agents touted as remedies for the condition is Legion.

A masterly setting forth of the status praesens of this subject made before the New York Academy of Medicine appears in that body's Bulletin for May.¹

Here it is in its essentials:

Drugs for essential hypertension have varied from the evanescent vasodilator nitrites through the ineffectual extracts of watermelon seeds and garlic up to the dangerous thiocyanate. These forms of therapy have had little effect on the individual sufferer and no effect on the incidence of hypertensive disease. Because of the recent revival of interest in thiocyanate the author's experience is reviewed. He has found uncertainty regarding proper dosage and frequently slight if any difference between the amounts that produce therapeutic and toxic effects, and so has been led to believe that thiocvanate has no place in the rational treatment of hypertension. There can be little doubt from the observations presented that toxic effects and even a fatal outcome may ensue in some patients who have in their tissues a smaller amount of thiocyanate than others who, not only do not become toxic, but experience a satisfactory fall in blood pressure.

^{1.} Wm. Goldring, New York, in Bull. N. Y. Academ. of Med.

Of the 50 patients with hypertension in this series treated 74 different times with thiocyanate, 13 presented toxic manifestations. In 11 of these the toxic manifestations disappeared within a few hours to four days after discontinuance of the drug. Muscular fatigue accompanied or followed by nausea; vomiting; disorientation and mental confusion; motor aphasia; hallucinations of sight and hearing; and, in the fatal cases, delirium, convulsive twitchings, coma.

As to sympathectomy for the treatment of essential hypertension enthusiasm has waned to the point now where applicants for this type of surgery are generally discouraged. The one striking benefit has been the relief in some cases of incapacitating headache. Indeed, he says, there are those who feel that even this and nothing more is full justification for the operative procedure in those in whom frequent paroxysms of headache have become intolerable.

It is acknowledged that the role of the kidney in the pathogenesis of hypertension and therefore the specificity of unilateral nephrectomy in its cure has been fully established for experimental renal ischemia hypertension in the laboratory animal; but whether or not this relationship obtains in man is still open to question. A few highly enthusiastic reports suggest that occasionally a unilateral destructive renal lesion, such as congenital aplasia or atrophic pyelonephritis, may initiate the hypertensive process.

This investigation included review of every case report in which unilateral nephrectomy was performed for the cure of hypertension, or in which renal pathologic change in a hypertensive patient was indication for the nephrectomy. Seventy-four such case reports have appeared. In only eight in which adequate preöperative control showed that blood pressures fell to normal soon after nephrectomy and persisted in the normal range for at least one year. This is not regarded as final proof that unilateral nephrectomy can cure hypertension, because high blood pressure may subside for long periods of time as a result of the nonspecific effects of any surgical procedure.

In accordance with the assumption that hypertension in man is initiated by renal ischemia, two other operative procedures have been suggested and tried—renal-omentopexy to supply a new source of blood to the kidneys, and nephropexy to correct interference with renal blood flow presumably due to ptosis of the kidney with kinking of the ureter.

After neither operation was the blood pressure lowered.

Treatment with a renal extract presupposes that essential hypertension in man is initiated by a

pressor mechanism originating in a manner analogous to that which obtains in the renal ischemic animal. Before final estimate is possible, it is contended, an extract free of impurities will have to be administered to a large number of hypertensive subjects. A further barrier to the acceptance of the specificity of renal extracts is the well-known fact that blood pressure can be lowered by the parenteral administration of any foreign protein following the administration of typhoid vaccine, the reaction which occurred with each adequate dose included marked temporary fall in blood pressure, on two occasions with falls to shock-like levels. By daily administration of typhoid vaccine it was possible to maintain a distinctly lowered blood pressure indefinitely. Although premedication with amidopyrine prevented the chill-and-fever components of the pyrogenic reaction, it was just as effective in lowering the blood pressure. The conclusion was arrived at that this hypotensive effect was due to widespread acute vasodilation and represented an unphysiological and therefore undesirable effect.

The second non-surgical and presumably specific therapy is based upon the thesis that ischemic renal tissue is deprived of adequate oxygen. As a consequence amines would not be deaminized; and, since they are known to be pressor, their accumulation in the blood would result in hypertension. To correct this metabolic fault it has been suggested that amine oxidase be administered. In attempts to reduce the blood pressure in hypertensive humans with Tyrosinase the pyrogenic reaction was encountered, which obscured any specific antipressor effect which may have been present. For a final estimate of its value in human hypertension, as with renal extracts, further trial is necessary with an amine oxidase free of pyrogenic agents, and the observations must be made in man.

If old Parson Hales had been able to foresee what his experiment of 250 years ago would lead to, it seems likely that he would not have inserted that several-foot-long glass tube in neck of his mare to see how high in the tube the blood would be forced.

THE PROBLEM OF IMPACTED TEETH

THERE is a great diversity of opinion as to remote effects of failure of wisdom teeth to erupt properly. The synopsis to follow seems to be a fairly conservative setting-forth of the case.

The mandibular teeth is more frequently impacted, and with good reason. The upper wisdom tooth is either impacted or has pierced the mucosa, while the lower one will most frequently come out

^{1.} Ernest Charton, L'union medicole du Canada, 72:33, Jan., via International Med. Dig., April.

of its alveolus normally and will align itself normally, but its posterior cusps will be covered by the mucous membrane of the ascending ramus of the mandible and germs will easily penetrate underneath the hood formed by the mucosa and will give rise to infectious processes.

Pain in the area of the ear is one of the most frequent indications of defective eruption of the wisdom tooth, and may be the only symptom; this symptom is usually produced by impacted lower wisdom teeth, but may be produced by the upper ones as well. Dental disturbances may also produce neuralgic pain and headache, and both these conditions should, in the absence of other etiologic factors, lead to careful dental examination.

In a survey of 700 cases of impacted wisdom teeth, 55 patients were found to suffer from headache. The author mentions two cases of violent and persistent headache for which no other cause could be found and which were cured by extraction of impacted wisdom teeth.

Some dental disorders, particularly impacted lower wisdom teeth, simulate the syndrome of chronic mastoiditis.

Marco reported a case of facial paralysis caused by an impacted lower wisdom tooth in a boy, aged 18, and postoperatively the patient, who had been delicate and anemic, began to grow and gain weight.

The symptoms of an impacted tooth are usually caused by infection, but they may be caused by the mere pressure exerted on adjacent teeth.

In the case of facial neuralgia, close coöperation between dentist and physician will be required to prevent the patients suffering unnecessarily from prolonged pain when removal of an impacted tooth may prove curative.

THE PSYCHIC COMPLICATIONS OF MALNUTRITION

(V. P. Sydenstricker, Augusta, Ga., in Proc. Royal Soc. of Medicine (Eng.), Feb.)

A number of psychic disturbances of widely varying patterns are relieved or cured by nicotinic acid.

In pellagra psychic disturbances may precede any other manifestations by months—this in primary attacks as well as relapses. Frequently the patients get small sympathy. Lassitude, loss of memory for recent events, apprehension, and a tendency to confabulation are common. Depression and mild delusional states without marked loss of insight may develop. Symptoms similar to those experimentally produced by B₁ deficiency are noted. In the pellagrin, however, we have not seen improvement follow the administration of thiamin. As the disease progresses glossitis and dermatitis make their appearance. After several relapses, there is marked disorentiation, hysterical and confusional episodes, and sometimes actively maniacal states.

In earlier stages adequate nicotinic acid has produced complete cure in the great majority of instances.

Of much more importance than the pellagrous psychoses are those referred to as the result of acute avitaminosis, "toxic psychosis," exhaustion delirium and "psychosis, cause undetermined." A small number of such patients are alcoholic; some have been subjected to dietary restriction for the treatment of gastrointestinal diseases; others have had their metabolic demands increased by the fever of infection; many received glucose as the chief source of nour-ishment. Physical signs of deficiency disease in the usual sense of the term are absent. Frequently the tongue is dry, clean and red, but without atrophy of papillae. The response of the mental symptoms to nicotinic acid or nicotinamide is rapid and complete.

Regularly there is evidence of underfeeding, though signs of avitaminosis are rare with occasional instances of glossitis. In this condition the results of the administration of

nicotinic acid have been good.

Symptoms include clouding of consciousness, cogwheel rigidities, and uncontrollable grasping and sucking reflexes; half had clinical evidence of pellagra, and all were alcoholic; mortality was 89.4%. When nicotinic acid was added, the mortality was reduced to 13.6%.

All the members of this group were given for several days a liquid diet of milk, eggs, cereal gruels and vegetable purees by stomach tube. As soon as cooperative diet was made full and abundant and 100 mg. of nicotinic acid or 30 mg. of nicotinic acid amide every hour for 10 hours during the first two days, continuing this dosage longer if necessary. The vitamin can be added to intravenous or subcutaneous infusions or given intramuscularly. The great majority of patients show great improvement within 48 hours. Once improvement is definite the daily doses of nicotinic acid can be reduced to 500 mg, and of the amide to 150 mg. four or five doses, equally spaced through the day. Later oral administration of 25 mg. of nicotinic acid t. i. d. should suffice. When there are signs of peripheral neuropathy and stuporous and encephalopathic states, give 1/10th as much thiamin with the nicotinic acid.

STAPHYLECTOMY FOR THE PREVENTION AND RELIEF OF COLDS AND SINUSITIS

(A. E. Ewens, Atlantic City, in Clin. Med., April)

Complete abscission of the uvula, in a series of more than 3000 cases, has revealed and verified the following remedial effects of this procedure:

Freer nasal ventilation; diminished nasal secretion "postnasal drip and hawking"; reduction in susceptibility to "colds"; prompt symptomatic relief from painful sinus involvement (maxillary and frontal), truly dramatic in a majority of instances.

This operation is one of extreme simplicity—an office procedure—practically painless by the topical use of four-per cent aqueous solution of Butyn. The only instruments needed are a suitable tongue depressor, medium-sized Noyes' alligator-jaw forceps, and a pair of tonsil-scissors, preferably with serrated edges.

Manipulation of the tongue-depressor is delegate to the patient.

Because of the slight vascularity of the uvula, bleeding is negligible, and usually subsides spontaneously within five minutes. In no instance, as yet, have hemostatic measures become necessary, or even debatable. Painful swallowing seldom persists more than four days, and healing is complete in two weeks.

The only requisite to success is that the uvula be removed in toto. Any compromise between staphylectomy and staphylotomy, though not entirely ineffective, will fall far short of the remedial potentialities of the former procedure, properly executed.

NEWS

OFFICERS NAMED BY STATE MEDICAL SOCIETY

Dr. James W. Vernon, of Morganton, succeeds Dr. Donnell B. Cobb, of Goldsboro, as president. Dr. Paul F. Whitaker, of Kinston, was chosen president-elect.

Others who took office: Dr. Fred C. Hubbard, of North Wilkesboro, first vice-president; Dr. George L. Carrington, of Burlington, second vice-president; Dr. Roscoe McMillan, of Red Springs, secretary-treasurer and delegate to the American Medical Association; Dr. Wingate Johnson, of Winston-Salem, Dr. B. O. Edwards, of Asheville, and Dr. Cobb, alternate delegates; Dr. J. K. Pepper, of Winston-Salem, member of Board of Examiners; Dr. C. A. Woodard, of Wilson, member of board of trustees of the Hospital Savings Association.

Councilors elected were Dr. H. D. Walker, Elizabeth City, First District; Dr. Thomas Leslie Lee, Kinston, Second; Dr. James F. Robertson, Wilmington, Third; Dr. Newsom Battle, Rocky Mount, Fourth; Dr. F. L. Knight, Sanford, Fifth; Dr. M. D. Hill, Raleigh, Sixth; Dr. R. M. King, Concord, Seventh; Dr. M. D. Bonner, Jamestown, Eighth; Dr. I. E. Shafer, Salisbury, Ninth; and Dr. C. C. Orr, Asheville, Tenth.

Dr. G. G. Dixon, of Ayden, and Dr. John Labruce Ward, of Asheville, were re-elected to the State Board of Health.

AWARDS IN 1942 NATIONAL HEALTH HONOR ROLL CONTEST

Names of 33 cities and counties in 18 states winning awards in this contest have been announced by the United States Chamber of Commerce and the American Public Health Association, joint sponsors of this annual contest in community health promotion and preservation.

War busy Michigan led all other states both in the number of participating communities and awards won.

These annual awards are made to communities which, in spite of wartime demands, have provided community health protection services against the spread of tuberculosis, venereal and other communicable diseases, have maintained protective educational services for mothers and children, have maintained safeguards against the dangers to the greatly increased activities in the war industries and have protected milk and food supplies and general sanitation in the field of water supplies and sewerage disposal.

The 13 winning cities: Milwaukee, Madison and Racine, Wis.; Detroit, Mich.; Baltimore, Md.; Greenwich and Hartford, Conn.; Newton, Mass.; Reading, Penn.; Hackersack, N. J.; Peoria, Evanston and La Salle-Peru-Oglesby,

Of the 20 winning counties, three are in Michigan, three in Tennessee, three in Kentucky, three in Mississippi, two in Washington, one (Arlington) in Virginia, one (Forsyth) in North Carolina, one each in Georgia, Montana, Texas and California.

COLLINS NEW PRESIDENT THE NATIONAL DRUG COMPANY

Alfred B. Collins has been elected President of The National Drug Company, Philadelphia manufacturer of biologicals, biochemicals and pharmaceuticals. Mr. Collins has been connected with National for eleven years and has held the posts of Comptroller, General Manager, and Executive Vice-President successively.

Charles E. Carr, former President and Treasurer for many years, has been elected Chairman of the Board and retains the position of Treasurer.

ALL CANDIDATES SUCCESSFUL

The 135 applicants who took the examination conducted by the Virginia State Board of Medical Examiners at Richmond on March 24th-27th were granted certificates, it has been made known by Dr. J. W. Preston, secretary of the board. Included in the group were six who were licensed through endorsement of credentials. Two also passed the examination in chiropody.

RICHMOND DOCTORS ARRIVE IN NORTH AFRICA

Three Richmond physicians, now officers in the Army Medical Corps—Lieutenant-Colonel Powell Williams, Major James P. Baker and Major M. M. Pinckney—have arrived safe in North Africa, according to word received by their friends and home folks.

THE KELLEY-KOETT MANUFACTURING COMPANY, Covington, Kentucky, has been presented the Army-Navy Production Award for Excellence in War Production.

DR. THOMAS R. NICHOLS, formerly of Clifton Springs, N. Y., has begun the practice of medicine at Morganton, N. C., in the field of internal medicine and obstetrics.

Since 1934 Dr. Nichols has been on the staff of the Clifton Springs Sanitarium and Clinic and in private practice at Clifton Springs. He has been health officer for Clifton Springs since 1936. A native of Baltimore, he was reared and attended schools at Cambridge, Md., where his father was a practicing physician. He was graduated from Washington and Lee University, from the Rochester School of Medicine in 1930. He spent four years in postgraduate training in the Department of Medicine at Strong Memorial Hospital at the University of Rochester and at Clifton Springs Sanitarium and Clinic.

Dr. Asa Thurston, of Taylorsville, suffered a broken leg in an automobile accident on April 11th. The chauffeur is said to have nodded. Dr. Thurston is recovering in the Davis Hospital, Statesville.

Dr. John McCampbell, Superintendent of the State Hospital at Morganton from 1907 until he resigned in 1938, has recently accepted an appointment as assistant physician of that institution.

MARRIED

The marriage of Miss Maryetta Moylan Fitts, daughter of Dr. and Mrs. Blair Fitts, of Aspen Hill, Drewrys Bluff, Va., and Dr. Rockwood Wilde Bullard, Jr., son of Mr. and Mrs. Rockwood Wilde Bullard, of St. Claire, Mich., took place April 24th, in Chicago.

Miss Elizabeth Marea Farley, of Merry Point, Va., and Dr. Bruce Owen Snider, March 27th.

Miss Dorothy Jay Kennedy, of Richmond, and Dr. Nathaniel Clayton Ewing, of Charlottesville, April 8th.

Miss Hazel Blair, of Gretna, Va., and Dr. Arthur Robert Anderson, Jr., of Warrenton, Va., April 17th.

Miss Frances Lightfoot Barrett and Dr. Paul Fitzgerald, Jr., both of Richmond, April 17th.

Dr. John David Powell, of Stuart, and Miss Mabel Kathryn Minter, of Martinsville, Virginia, were married on April 24th.



The effectiveness of *Syntropan 'Roche' in the treatment of spastic colitis has been demonstrated by Weston (Rev. Gastroenterol., 1942, 9:285). In a series of patients, some of whom had had symptomatic distress for as long as seven years, many experienced complete relief of symptoms following Syntropan therapy. The action of Syntropan 'Roche,' a non-narcotic antispasmodic, has been found superior to that of belladonna and its derivatives in the treatment of disorders due to smooth muscle spasm. Most important is the fact that Syntropan affords more direct antispasmodic effect with less likelihood of mouth dryness, mydriasis, or tachycardia.

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* The phosphate salt of 3-diethyl-amino-2, 2-dimethyl-propanol ester of tropic acid.



SYNTROPAN 'ROCHE'

Miss Loretta Chapman Lybrook, of Fincastle, Va., and Dr. Charles Graveley Young, of Roanoke, April 10th.

Miss Frances Elizabeth White, of Schuyler, Va., and Dr. Russell Nelson Snead, of Norfolk, April 10th.

DIED

Dr. Walter J. Lackey, 36, a lieutenant in the Army Medical Corps stationed at Fort Jackson, Columbia, S. C., was burned to death in his home there in the early morning of April 30th. An honor graduate of the University of North Carolina and the University of Virginia Medical School, Dr. Lackey had practiced at his home town of Fallston, Cleveland County, N. C., prior to his entry into the Army.

Dr. Lackey has enjoyed a large and unusually successful practice and had contributed greatly to the augmentation of the prestige of the general practitioner. He was largely responsible for the creation of a Section on General Practice in the Medical Society of the State of North Carolina, and the Southern Medical Association, and was the first chairman of such a section in each of these organizations.

His wife and three children survive.

Dr. William Allan. Professor of Genetics in the Bowman Gray Medical School of Wake Forest College, Winston-Salem, N. C., died at Winston-Salem on the 24th of April. In connection with the practice in internal medicine which, except for service in World War I, in which he won the rank of major, he conducted at Charlotte for a third of a century, Dr. Allan had done fruitful research in intestinal disease conditions, and a much more elaborate research in heritable deficiencies, which latter work won for him the Chair of Eugenics in the new Bowman Gray Medical School. Until he retired from practice Dr. Allan was the foremost consultant in his Section of our Country.

Dr. Benj. H. Gray, Richmond, died at his home April 15th, at the age of 64. Dr. Gray had been for many years Clinical Professor of Obstetrics in the Medical College of Virginia and Obstetrician to a number of Richmond hospitals. Among the many medical societies in which he had membership and in which he served is the Tri-State Medical Association.

Dr. Josiah Leake died at his home at Churchland, Va., April 17th.

Dr. Robert Rives Jones, of Winston-Salem, died on April 13th. He was a graduate of the Medical College of Virginia in the class of 1923.

MEDICAL COLLEGE OF VIRGINIA

A Grant of \$28,630 has been received from the General Education Board with which to make an experimental study of curriculum content, organization, and related matters in the field of nurse education. Severely objective techniques will be employed. The first consideration will be to make an activity analysis of what science the nurse uses in practice to determine core material, this to be enriched in the development of integrated science instruction for nurses. Many special studies are contemplated during the four or five years these experimental studies will run. Special personnel for the study will be brought in from the outside, including an advisory committee selected on a national basis.

The Reverend Mr. George Ossman, rector of The Monumental Church, adjoining buildings of the hospital division, has completed a two-months' course in Boston and New York for hospital chaplains. Shortly, he will take up such duties wit hus, spending the morning routine in this work and and available in the afternoon on special call. As far as known this is the first program of this sort to be launched in this area although among the larger hospitals of the North it is recognized as a necessity. Mr. Ossman will also cofrdinate the spiritual activities of the hospital division regardless of denominations and faiths. This program has had the staunch support of the Richmond Ministerial Association and others of the community vitally interested. This arrangement is a part of a plan of closer coöperation with Monumental Church, involving several important exchanges of services.

A Symposium on nutrition was held on March 24th-26th in coöperation with the State Nutrition Committee, at which registration numbered 550, with probably 100 in attendance at one time or another who did not register. Eleven states were represented in the registration. Prominent speakers on the program were: Dr. Virgil P. Sydenstricker. professor of medicine, University of Georgia; Dr. W. H. Sebrell, surgeon, United States Public Health Service; Dr. Lydia J. Roberts, chairman, Department of Home Economics, University of Chicago; Brigadier General J. Fulmer Bright, Director of Office of Price Administration of Virginia; and Miss Bertlyn Bosley, Research Student in Nutrition, Teachers College, Columbia University.

Dr. Clair R. Spealman, assistant professor of physiology, recently resigned to enter the armed services. Dr. Spealman has been replaced by Dr. E. L. Smith of the University of Chicago. Mr. Norman L. Pinschmidt of the University of Maryland has also joined the department of pharmacology as assistant.

Dr. Porter P. Vinson, professor of esophagoscopy, bronchoscopy and gastroscopy, recently spoke before the District of Columbia Medical Society on the Treatment of Dysphagia, with particular reference to hiatal esophagal hernia.

Dr. E. I. Evans, assistant professor of surgery, attended the War Sessions of the American College of Surgeons at Charlotte, North Carolina, giving a talk on Plastic Sur-

Dr. Edward J. Van Liere, dean of the school of medicine, West Virginia University, was a recent college visitor.

A CURE FOR ENURESIS?

(Robert Boyd, Brooklyn, in Med. Rec., April)

The boy, 14, generally in good physical condition. For four or five years he had been suffering from enuresis. He slept under light bedding each night, and frequently at beddime his father tied a heavy bath towel around the boy's waist, with a large knot over the lumbar region, in the hope that if he turned this knot would cause pressure and awaken him. When this occurred he would arise and urinate, but when he awakened, about seven, he was greatly chagrined to find that he had wet the bed.

The father had taken his son to two specialists, and the boy had taken the medicine they prescribed diligently, as directed, but the condition was not relieved.

Believing that the uterine muscular fiber is practically the same as the sphincter muscle of the bladder, I prescribed fluid extract of ergot, a teaspoonful three times a day for eight days. On the ninth day I was informed that the boy had not wet the bed since the second day he had been taking the medicine. The father also said that the boy was very happy and was no longer ashamed of himself.

In three months he wrote to me, as requested, and informed me the boy was fine, that the condition had never returned since the second day he had been taking the medicine.



YOUR gift of cigarettes to men in service is the most welcome of all remembrances. And the preferred brand, according to actual survey, is Camel.*

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*With men in the Army, Navy, Marine Corps, and Coast Guard, the favorite cigarette is Camel. (Based on actual sales records in Post Exchanges and Canteens.)

Remember, you can still send Camels to Army personnel in the United States, and to men in the Navy, Marines, or Coast Guard wherever they are. The Post Office rule against mailing packages applies only to those sent to men in the overseas Army.

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BOOKS

DISEASES OF THE THYROID GLAND: Presenting the Experience of More Than Forty Years, by ARTHUR E. HERTZLER, M.D., Surgeon to the Halstead Hospital; Professor of Surgery in the University of Kansas. With 495 illustrations. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 49 East 33rd Street, New York City; London, 1941, \$8.50,

The author tells us that this is merely a record of his studies over a period of nearly 50 years. Few will agree that the word, merely, should have been put in. It is a study over near a half-century. And what a study! And by what a man!

Taking into consideration his knowledge of pathology, of medicine, and of surgery, it is doubtful if any man is as well qualified to write on diseases of

the thyroid gland as is Dr. Hertzler.

Sound and long training in the pathology laboratory and continuation in personal work in pathology throughout his work in clinical medicine and surgery; with a long and exceptionally large experience in treating patients afflicted with thyroid disease, not as medical or surgical, but as sick individuals; always with a mind keenly alert, open, unprejudiced, strong and independent, has qualified Dr. Hertzler uniquely to speak with authority on this important subject. All doctors would do well for their patients by giving him an attentive hearing.

THE INNER EAR, Including Otoneurology, Otosurgery and Problems in Modern Warfare, by Joseph Fischer, Staff Member, Beth Israel Hospital, Boston; formerly Associate of Adam Politzer and Senior Otolaryngologist with Gustav Alexander, Policlinic of Vienna; and Louis E. WOLFSON, M.D., Instructor in Ear, Nose and Throat, Tufts Medical School; Senior Surgeon in Ear, Nose and Throat, Boston Dispensary. Grune & Stratton, 443 Fourth Avenue. New York City. 1943. S5.75.

This book is intermediate between the brief and elementary textbooks on the one hand, and the enclyclopedic on the other. It is the result of many years of teaching, and during that teaching of having been interested constantly to learn the needs of the student-pre- and post-graduate. There is no better covering of the subject anywhere.

INTERNAL MEDICINE IN OLD AGE, by ALBERT MUELLER-DEHAM, M.D., Associate Visiting Physician, Welfare Hospital for Chronic Disease (2nd Division), Department of Hospitals, New York City; formerly Clinical Professor of Internal Medicine, University of Vienna Medical School, and Chief of Medical Division, Municipal Hospital for Chronic Disease, Vienna; and S. MILTON RABSON, M.D., Assistant Professor of Pathology, New York Postgraduate Medical School, Columbia University (on leave); Lieutenant Commander, U. S. N. R. The Williams & Wilkins Company, Mt. Royal & Guilford Avenues, Baltimore. 1942. \$5.00.

The authors write from a large experience in the care of many old patients. Much of the material was gathered by the senior author in a 15-year

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service at the immense Hospital for Chronic Diseases in Vienna. There he had the remarkable opportunity of witnessing more than 2,000 necropsies on persons that he had seen as patients.

A mutual interest in, and experience of, the problems of old age accounts for the collaboration represented by this volume, which will certainly take a place among the best of the numerous books being written on this subject.

DISCOVERING OURSELVES: A View of the Human Mind and How It Works, by Edward A. Strecker, A.M. M.D., and Kenneth E. Appel, Ph.D., M.D., in collaboration with John W. Appel, M.D. Second edition. The Macmillan Company, 60 Fifth Avenue, New York City. 1943 83.00.

Twelve years ago the first edition of this book was offered to the public. The demand continues and the new edition is put out in answer. It is an easily-readable presentation of the features of psychology, personal and social, which are of every-day concern to us.

There are chapters on The Intimate Relation of Body and Mind; Nervousness is not a Disease of the Nerves; The Conscious, the Subconscious, and the Unconscious; Logical vs. Emotional Thinking; Exaggerated Emotion; The Extrovert; The Introvert; How We Deceive Ourselves; Repression; Conversion; Substitution; Projection; Identification and Idealization; The Inferiority Complex; Sublimation or Socializing Our Instincts.

In this edition there are two new chapters, one on Fear, the other on Anger.

This is no half-baked work. The senior author is Professor of Psychiatry in that old, solid, conservative University of Pennsylvania. Physicians and intelligent laymen will find ample repayment for a careful study of the book.

SULFATHIAZOLE THERAPY OF 500 PROSTITUTES (H. Struass & I. Grunstein, Brooklyn, in *H. A. M. A.*, April 10th)

A study of 615 hospitalized gonorrheal patients shows that 60 grains of sulfathiazole daily for one week gives a 95% apparent cure rate. The administration of sulfathiazole or sulfapyridine to the failures increases this rate to 98.9%.

This very high cure rate must, however, be carefully scrutinized in order to determine the permanence of our immediate results. It must be ascertained in each case whether there has been sufficient treatment and an adequate period of observation.

It must be determined whether the criteria of cure employed are sufficient to insure protection of the public against further infection. The difficulty in detecting the asymptomatic carrier must be emphasized strongly.

A prostitute, although treated, remains potentially infectious for three months, during which time, if at large, she is a source of infection and as such forfeits her right to the brnefit of doubt.

The cure of an infected prostitute requires adequate compulsory hospitalization. Repeated offenders should be interned for the duration and compelled to aid in the war effort.

OF INTEREST TO DOCTORS

VISITORS TO THE FOURTH INTERNATIONAL ASSEMBLY of the International College of Surgeons to be held at the Waldorf-Astoria Hotel in New York City June 14th, 15th, 16th, 1943, should visit the East Foyer on the third floor and view special exhibits set up and to demonstrate activities in military affairs and rehabilitation. Among these will be a visual demonstration on the work of rehabilitation by the State of New Jersey Rehabilitation Commission, presenting its Curative Workshop under the personal direction of Mr. J. C. Kupper.

The Veterans' Administration, Washington, D. C., of which Charles M. Griffith is Medical Director, will furnish charts, showing pictures and descriptions of the routine and special measures in biliotherapy, occupational therapy, and physical therapy used to aid in the treatment of patients in Veterans' Administration hospitals.

The Medical Detachment of the 17th Regiment, New York State Guard, of which Major Donald R. Beck is Regimental Surgeon, will set up a field hospital. The personnel will consist of members of the medical detachment who will be in daily attendance. The officers attached to this medical detachment are Captain W. R. Hatfield, Captain John Murphy and Captain Harold Belcher.

A REHABILITATION CLINIC has been organized at Stuyvesant Polyclinic in New York City by H. I. Biegeleisen, M.D., to rehabilitate rejected applicants for military service. Conditions such as varicose veins, phlebitis, lymphedema, hydocele, hemorrhoids, pilonidal cyst, bursittis and hernia will be treated by sclerotherapy.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK had its annual meeting early in May at Buffalo, N. Y. Listed as guest speakers were Col. George Bachr, Chief Medical Officer, Office of Civilian Defense, Washington, D. C. His subject was "British-American Experience in Civil Defense." Capt. Reynolds Hayden, M.C., U. S. N., Commandant, 3rd Naval District, New York, spoke on "Summary of the Modern Treatment of War Injuries."

The Medical and Surgical Relief Committee of America, 420 Lexington Avenue, New York City, has issued an urgent appeal for drugs and instruments to enable it to continue its work of providing emergency medical kits to Coast Guard patrol boats and Navy sub-chasers.

Among the items sorely needed to equip the emergency kits are artery clamps, splinter forceps, scalpels, probes, grooved directors, sulfadiazine tablets, sulfadiazine ointment 5 per cent, sulfathiazole tablets, and sterile shaker envelopes of crystalline sulfanilamide. Any other spare medicines or surgical instruments are, of course, also welcome.



GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

ON HEADACHE

Headaches we all have, literally and figuratively. A New Yorker¹ has written instructively on differentiating among the headaches of a certain large group.

Rheumatic furuncles, erysipelas, cellulitis, tuberculosis, osteomyelitis of the sinuses, fractures of the base of the skull, tumors of the ear and nose are easy to diagnose. Temporal arteritis and aneurysm of the brain arteries are to be remembered as a cause of headaches.

In frontal sinusitis the complaint is made of local pains in the affected region, also of headaches in the whole forehead. The pains in anterior ethmoiditis are frequently in the root of the nose and around the lower forehead; in posterior ethmoiditis and sphenoiditis mostly in the top of the head, the parietal and occipital region and not infrequently in the infraorbital nerve; in inflammation of the antrum over the antrum and sometimes supraorbital.

Chronic otitis media with cholesteatoma, or acute otitis media with softening of the bone may reach the dura and thus produce headaches. Suppurations of the apex of the petrous pyramid are accompanied by typical headaches.

After radical mastoidectomy, sometimes even after 10 to 20 years, headaches suddenly appear in the posterior cranial fossa, tenderness of the bony margins of the operative wound, with nystagmus, past-pointing and vertigo. If we clean the cavity and perform one or more lumbar taps, thus reducing the high pressure of the posterior cranial fossa, the patient is quickly relieved. In such cases we have to deal with a circumscribed serous meningitis of the posterior cranial fossa.

Neuralgias are found quite often, even in children, and are frequently incorrectly diagnosed as sinus trouble. Nearly 50 per cent of the patients suffering from neuralgia of the supraorbital nerve have no frontal sinus at all.

The brain itself is insensitive to all chemical, thermic, mechanical irritations. The dura and choroid plexus are supplied with sensory fibers, whereas the pia and arachnoid are not. The arteries and veins supplying the brain have no such fibers.

In acute meningitis there is always an accumulation of liquor and increased protein and cells resulting in increased tension of the dura. Relief of tension by a special tap may mitigate or remove the headaches for some time. A new accumulation of liquor will result again in headache. Chronic

1. Jos. Berberich, New York City, in Dig. of Ophthal. & Otolaryn., April. meningitis causes an increase of protein and cells. Fluctuation of the liquor causes traction on the dura. Practically every case of mumps has an increase in spinal fluid. In some cases mumps very quickly damages the auditory nerve with impairment or even complete unilateral loss of hearing. Early and repeated spinal tap may save the hearing.

It is often very difficult to differentiate meningism from pneumonia in the prodromal stage. Tenderness of the skull on tapping, increased headache at sneezing, coughing, turning of the head, and on walking, also nuchal rigor—all speak in favor of an increase in intracranial pressure which can easily be proved by a spinal tap.

Headache following the next morning abuse of alcohol or nicotine or in other poisonings are to a great extent due to increased secretion of the spinal fluid in the choroid plexus.

Many men get headaches immediately while eating ice cream, mostly on the first bite. The examination of 18 cases with an ophthalmologist during the eating of ice cream and plain ice, in almost all cases, showed decrease of the blood flow, coarse clumping of the erythrocytes, constrictions, aneurysmal dilations.

Headaches in hypertension can also be explained by the accumulation of liquor cerebrospinalis. Headaches in hypotension are probably due to disturbances in the cerebrospinal circulation.

Tumors of the brain show in 80 per cent of the cases an increase in the pressure of the spinal fluid due to increased production, or due to decreased cutflow, of the fluid.

HEREDITY IN CHRONIC ALCOHOLISM

(F. Lemere, et al., Seattle, in Northwest Med., April)

The usual explanation that alcoholism is simply an expression of an underlying neurosis or inadequacy is insufficient, for most of our patients have become quite normal when they stopped drinking. True, alcohol may be an escape from reality, but many individuals with greater handicaps than the alcoholic fail to seek this way out. Nor does a critical review of patients' histories show that they have become conditioned to alcohol through environmental association. Rather, alcoholics seem to have an innate susceptibility to alcohol which we believe is akin to an allergy to a food or an idiosyncrasy to a drug.

Alcoholism is four times as frequent in the family history of the excessive drinker as of the normal drinker. The inheritance is that of an abnormal reaction to alcohol in that the effects of the drug are more attractive and less obnoxious than to the normal drinker.

There is a nonspecific relationship between the inheritance of psychopathy and alcoholism.

Total abstinence often is an equivalent of alcoholism in that the individual instinctively avoids a substance to which he would have an abnormal reaction.

We believe that treatment directed specifically toward depriving the excessive drinker of his abnormal pleasure in alcohol is logical and full of therapeutic possibilities. THE THEATRICAL WORLD

KISS AND TELL

A comedy by F. Hugh Herbert, featuring Jessie Royce Landis and Robert Keith, settings by John Root, staged and presented by George Abbott at The Biltmore Theatre, New York City.

This clever comedy is presented in the fine George Abbott style and is playing to packed houses. Its unusual theme has to do with suburban entanglements of parents and children. Prideful parents who have forgotten what it is like to be young have some of their fondest illusions shattered and many parents in the audience will doubtless recognize the childish, petty pride of their neighbors, of course. However, the fun is very human and fresh and best of all, the comedy is achieved not by funny faces or zany costumes, but by actual situations and splendid acting.

Miss Landis, as always, gives a beautiful characterization and Robert Keith is a wonder throughout the whole play. He plays a sensible middle aged lawyer who gives way to all the petty, vain, human irritations and he is so distressingly real that the domestic drama becomes first class comedy. A play to be seen and heard and not written about.

OKLAHOMA

A musical play, book and lyrics by Oscar Hammerstein II, music by Richard Rodgers, directed by Reuben Mamoulian, dances by Agnes DeMille, costumes by Miles White and produced by The Theatre Guild at The St. James Theatre.

The Theatre Guild has presented a musical with all the care and devotion that it lavishes on its most serious produstions with the result that it is a joy throughout its three acts and eight scenes. It combines the best in each department. Richard Rodgers has supplied some of his very best tunes, and there is an exceptionally fine orchestra to play them. The scenes and costumes are colorful and imaginative and the chorus is not merely an ensemble but a group of really fresh and highly talented singers and dancers. In fact, the dancing as arranged by Miss De Mille is distinguished for its cleverness, its zest and charming execution.

Among the principals, Celeste Holm is not only beautiful, but has a magnetic voice and a priceless sense of comedy.

When the play comes to an end, the audience reluctantly leaves but goes out exhilarated and humming tunes that are destined to be hummed all over the country.

ZIEGFELD FOLLIES

Production devised and staged by John Murray Anderson, dances staged by Robert Alton, lyrics by Jack Yellen, music by Ray Henderson, presented by the Messrs. Shubert at The Winter Garden Theatre.

The Messrs. Shubert are carrying on in the tradition of the late Florenz Ziegfeld and their latest production is opulent with gorgeous show girls.

Milton Berle carries the show through most of its scenes and he is such a funny and genuine comic that it doesn't matter what he says it's how he says them. Ilona Massey, of movie fame, is featured in the cast.



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Mental Disabilities Resulting From War*

The Need for a Rehabilitation Program

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THE PURPOSE of this paper is to plead for the organization of a healthy community attitude in relationship to the neuro-psychiatric disabilities which will ensue as a direct result of the war effort. It is difficult to estimate what the neuro-psychiatric casualties will be among civilians and at this time one would hesitate to predict any marked increase in neuro-psychiatric disorders in the non-military portion of the population, although in this war, since they are involved much more directly, one might expect civilians to be affected almost as severely as the troops.

In the present conflict 30 per cent or more of the casualties evacuated from the various battle zones are neuro-psychiatric in character. A large proportion of these are functional disorders. The experience of the Veterans Facilities following the last war indicates that as time goes on the proportion of neuro-psychiatric disabilities that will have to be cared for by the Government will increase. Prior to Pearl Harbor the ratio of neuro-psychiatric disorders to other disorders occurring among the veterans cared for in U. S. Veterans Facilities had risen to over 50 per cent. This was no doubt due in part to a lack of a systematic rehabilitation program.

Those who remain stable following loss of limbs or organs can and do readily coöperate in reëstablishing their self-sufficiency in the community. This is often not the case with the emotionally disabled, the net result being the continuance of the disability at great expense to the Government and the people of the United States.

I quote from a recent report of the National Committee for Mental Hygiene: "The rehabilitation of disabled civilian and service men should be provided for, both to augment manpower and to assist in individual adjustment.

"Past Federal legislation has ignored the mentally handicapped and the states have followed the Federal lead. Bills now before Congress are no more promising. During the past year the National Committee has added to its services the staff of the Vocational Adjustment Bureau, a staff that has had twenty years of experience in vocational rehabilitation, and under the direction of Dr. Emily Burr and the Vocational Adjustment Bureau a demonstration rehabilitation unit for mentally handicapped men has been established at our head-quarters. To this, men are referred who have been discharged or rejected from the armed forces. Such a demonstration, however, demonstrates to nobody

^{*}Prepared for presentation to the 1943 meeting of the Tri-Stat - Medical Association.

if the national program of rehabilitation ignores the mentally handicapped." (This Vocational Adjustment Bureau makes a careful survey of the capacities and limitations of the individuals referred and attempts to fit them into industrial placements where they can be expected to succeed.)

At the recent meeting of the American Psychiatric Association in Detroit a report was given of the excellent work being conducted by the American Red Cross at St. Elizabeth's Hospital for the total social rehabilitation of mentally ill personnel of the United States Navy. This effort integrates psychiatric social work with the psychotherapeutic program of the hospital. Men who are convalescing from mental illness are brought together in a group where the practical issues involved in obtaining employment are discussed. They are desensitized as far as possible to the fact that they have been mentally ill and instructed in the best ways of handling the problem. Letters from boys who have been successful are used as examples. Such questions as "whether the employer should be told" are talked over and every encouragement toward self-reliance and self-respect is given. The effort is applied at the point of maximum effectiveness: that is, at the time the individual is separated from the armed service, and the practical results are gratifying. Such a program should certainly be supported by the Federal Government and provision made for the extension of it (or a similar program) to all mentally disabled veterans.

An editorial in the Journal of the American Medical Association for February 27th, 1943, discusses the War Manpower Commission's systematization of the adjustment of the handicapped worker to special types of employment. An analysis of the job together with a correct evaluation of the limitations imposed by the handicap permits the use of the blind, the deaf, those without arms or legs, etc., in many types of employment not previously considered within their capacity.

It would seem that little has been done with a view to fitting the mentally handicapped into special types of work or in the direction of adjusting work situations to meet their needs and to enable them to give efficient service; yet these disabled constitute a larger group than any other single type of disability. There is a crying need for such a program on a national scale and supported by the local State governments. If these mental casualties are not rehabilitated, they will ultimately be cared for at the expense of the taxpayers either in Veterans Facilities or in State hospitals. The program developed by the National Committee should receive attention and support from physicians everywhere, for these mentally disabled will ultimately return to their home communities and what will

be done for them will depend to a very great extent upon the general practitioner at home. He will be able to adequately meet the problem if these cases can be referred to an agency equipped to handle them.

Perhaps the greatest obstacle to such readjustment is the unwillingness of employers to hire new employees whom they know have had a mental illness, although one is favorably impressed by the willingness of most employers to take back into their organizations people who have given efficient service previously but have incurred a mental breakdown on the job. This leads one to hope that industry might be reëducated to recognize a source of potential valuable service in the mentally disabled veteran. After all, we all know many people who are neurotic and unstable emotionally but who have never been known to have an acute mental illness, who are employed continuously over a period of many years in various occupations; at times in positions of great responsibility.

The mere fact that a person has had a mental illness need not prevent him from being profitably productive in some capacity, even though the recovery may not be complete. When the recovery from the illness is complete, he should have the same status for employment in the community that he would have had had he broken his leg or suffered an attack of acute appendicitis.

Those of us who work in mental hospitals have had intimate experience with this problem. For example, one patient, who suffered from a prolonged schizophrenic illness and recovered with a certain amount of personality limitation, is nevertheless able to carry on efficiently and with satisfaction to himself and his employer as assistant manager of a theater. A young woman with psychopathic tendencies, who had an acute manic-like illness from which she has recovered to some extent (remaining somewhat unstable emotionally and under extramural treatment), has held for many months a position as secretary in a large insurance firm. Another woman, who suffered from severe recurrent depressions several times while working in a secretarial position, has been placed, through the efforts of the Social Service of the State hospitals of Maryland, in a home on a farm where she assists with the gardening and the raising of chickens and is making a happy adaptation while doing useful work. Another woman, who has been chronically ill with schizophrenia for many years. gave efficient and satisfactory service as secretary to the Red Cross over a period of several months during her illness. A young man, chronically ill with a severe psychoneurosis, is doing volunteer work sorting card indices, a task which contributes indirectly to the efficiency of the induction service.

For several months he was employed by a wholesale druggist and continued in that employment with satisfaction to himself and his employer until the latter went out of business due to the difficulty of procuring supplies. Another young man who had suffered from schizophrenia took a course in airplane inspection while still at the hospital and is now employed as an airplane inspector. Another young man, who has partially recovered from a schizophrenic attack, is doing productive work on a farm. These are instances that come to mind without effort. They could be multiplied endlessly. I am sure that none of them exhibit peculiarities in their work that would distinguish them from many whom anyone who reads this would know to be working regularly at similar employment.

The solution of the problem of rehabilitation of the mentally disabled veteran lies in a change of community attitude. These patients are sensitive and anything which militates against their self-respect adds to and increases their liability to illness and the severity of their symptoms.

There recently appeared at the induction board in Baltimore a young man of 20 applying for voluntary reënlistment in the service. He had been at Pearl Harbor on the historical December 7th, 1941. There he was lying in barracks with his friends when they heard airplanes overhead. At first they thought it was maneuvers of American planes, but on looking out of the window they saw the emblem of the Rising Sun. They turned out to man the guns and he took his place with his own crew. One of his companions was killed and another came up to take his place. Shortly thereafter a metal fragment severed the neck of the newcomer. This was a boy with whom the applicant for reënlistment had been reared and who had joined the Army with him. The young man began to shake all over and sob hysterically. He was ordered to barracks but did not want to go and resisted efforts to remove him. It took several men to subdue him, whereupon he was removed to the hospital and incarcerated with many others who were upset in the same way. Gradually the acute episode passed; he was evacuated to the United States and discharged with "disability due to psychoneurosis." At home he felt embarrassed with his own age group. Occasional apparently joking remarks by acquaintances to the effect that he had gotten out of the service as soon as the war started did nothing to make him feel any better. He found it difficult to tolerate companionship and when seen at the induction center was slightly unstable and extremely defensive.

This is one type of the things we have to deal with and this is an example of poor community management.

One of the great obstacles to rehabilitation is compensation for mental disability. Every psychiatrist knows that continued payment for disability increases the difficulty of cure. There has been considerable discussion of the possibility of either doing away with compensation for war neuroses, etc., or of arranging to have the compensation paid in one lump sum. The pursuit of such a program may miss altogether the practical issues involved, inasmuch as the last war taught us unequivocally that the temper of both the American people and the Congress is such that veterans disabled from any cause connected with the war will not be permitted to go uncompensated. If lump sum settlements are made the problem will be revived in Congress from time to time and additional settlements allowed, so that in the end it is possible that we may pay more rather than less. One of the facts we must be prepared to face is this: that veterans suffering from mental disabilities will be given continuous disability payments by the national government unles they can be happily and productively restored to full occupational status. This increases the urgency of the need for a vigorous rehabilitation program at the time the individual leaves the service. The longer the neurosis is allowed to continue, the more fixed it tends to become, especially when it earns money (however little) for the individual by means of compensa-

If careful personality and job analyses are not available, serious and expensive errors are bound to occur. In 1925 I saw an individual who had suffered from a head injury and retained a depression fault in the left frontal region as the result of a wound sustained during World War I. He had been discharged in 1918 with the diagnosis of "alexia and agraphia." In the intervening seven vears the Government had spent upon him something close to \$40,000 in compensation and rehabilitation programs. At the time I saw him he had just completed a two-year training course in an attempt to make a sign-painter out of him, He had made no progress whatever in this course, since he continued to spell words incorrectly, even when copying, and would leave out or reverse the form of individual letters. His productions were remarkably similar to those published by Goddard as the productions of the mentally defective. The fact of the matter was that he had been unable to complete the third grade at school by the age of sixteen, had never learned to read or write, had a mental age of approximately eight years on formal testing, and had made his best work adjustment by collecting junk for junk dealers prior to his induction into the service. He became "rehabilitated" when he was allowed to return to the industrial level from which he came. As a matter of fact, subsequent to his injury there were no neurological or mental evidences of any impairment of the personality which had not been there before he en-

Error may occur in the other direction also. A man who suffered from narcolepsy with an average of eighteen hours of sleep out of each twenty-four was diagnosed as hysteria and attempts were made to adjust him in various occupations. One of these was acting as receptionist in an office, for which he was obviously unsuited by his somnolence; another was driving a team hauling gravel on a construction job. He adapted himself to this by always getting his team behind that of another driver so that the horses would follow automatically if he fell asleep. This worked all right for a while until he fell off the seat en route one day. Under the circumstances, the only recourse seemed to be compensation for total disability, although this man would have been capable of some productive work in his six hours of wakefulness if he had been adjusted at supervised piecework without pressure in a stimulating environment.

These failures at readjustment were the result of unguided or misguided efforts of well-meaning but psychiatrically untrained social workers. They contrast sharply with the well planned and effectively executed program of readjustment now being conducted by the American Red Cross at St. Elizabeth's Hospital for naval men with mental disability. In the majority of instances perhaps, where the issues are relatively simple and the personality assets and liabilities are patent, the personality analysis could be made by any competent physician. In doubtful cases, however, or those in which the attempts at readjustment fail, the nature and extent of disability may be determined only by careful neurological, psychological, social and psychiatric study. This must include not only an estimate of the capacity of the individual to execute the work required on a particular job, but also an estimation of the individual in terms of his capacity to adjust to his fellow workers, to discipline, to routine, to work under presure, etc. On the other hand, job analysis, together with the fitting of the individual with his special capacities and limitations to the work in hand, can only properly be conducted by a trained personnel adjustor. It is incumbent upon the medical profession to see that employers are furnished with the necessary information that will enable them to know whether the individual who is mentally disabled can adjust to the working conditions as they stand, or if possibly the working conditions can be changed to fit the special needs of the disabled individual.

The attitude of all who contact these patients should be realistic and neither pampering nor overharsh (or "hard-boiled"). Oversympathetic pampering undermines the self-respect and self-reliance of the patients: harsh attitudes excite their sensitivities and are unjust. Both tend to prolong the disability and are unnecessary.

We would conserve the national health, promote the happiness of these individual patients, and save the Government and the taxpayers a great deal of money if a portion of the huge expenditures, which are inevitable for mental disabilities incurred during the war, could be expended now to set up a properly functioning rehabilitation program. This will be done when and if the general public demands it. Understanding of the problem by physicians and support of programs aimed at its solution would go far toward creating the necessary change in community attitude and would constitute another major contribution to public health on the part of the medical profession.

TRUE DESCRIPTION OF A RECENT WONDER-BIRTH WHICH OCCURRED AT THE PLACE AND UNDER THE CIRCUMSTANCES HEREINAFTER NAMED

1566

As Translated in Transactions College of Physicians of Phila delphia, February, 1943

In a village situated half-way between Augsburg and Dillingen, about three miles from each, Emersacker by name, formerly subject and belonging to the posthumous sons of Master Ulrich von Knöringen, night, it came about that on the 22d and 23d of December of the 65th year just passed, Anna Rise, the wife of a poor peasant, Caspar Rise, dwelling in that place, a married housewife, gave birth to and was delivered of five living infants who were entirely complete and possessed of all members. Namely, on the Sunday before Christmas, in the evening, she was delivered of a little boy, who lived two hours. Subsequently, on the holy eve of Christ's birth, she gave birth to another son together with three little daughters, and thus, in two days, to five separate living children. But inasmuch as the aforesaid new-born children were very feeble, they were hastily baptized at home, following the Christian custom, and lived about two hours. After their death they were buried in the ground as usual. The witnesses of the prodigious birth, who were themselves present and in attendance, were therefore examined by the chief magistrate. They are: first, the midwife, called and named, Hilaria Bützin; the godmother, Anna Gaugenriederin; also Anna Oertlein, magistrate's wife of that place; also Agatha Kratzeren and many more persons, all of whom gave competent information in connection with this case. It is also to be remarked that the above-designated woman previously also had been delivered of three children at one

What now the Almighty God wishes to give us to understand through such and other wonderful dispensations, there is nothing final or conclusive thereon to write. For all that, it is well to wish—even diligently to implore and to pray—that through His divine grace and omnipotence. He permit such wonder-works of His, in which we shall ever praise and commend Him, always to aid us to a just consideration of His divine majesty in true acknowledgement of our Christian faith and observance of His commands, through the merit of His only-begotten Son, our Redeemer and Savoir, Jesus Christ, who with Him and the Holy Spirit reigns world without end.

The Facial Neuralgias*

ROWLAND T. BELLOWS, M.D., Charlotte, North Carolina

NEURALGIA of the face is a term applied to pain which occurs in the face and head and corresponds in distribution to that of certain nerve structures. Pain in the face is subdivided into, first, nerve pain, and second, vascular pain.

Nerve pain is the true neuralgia—the painful spasm, or tic douloureux. Nerve pain may involve three of the cranial nerves: the Vth, the VIIth and the IXth.

The many patterns of vascular pain are known collectively as atypical neuralgia. Vascular pain originates in the walls of arteries, with which the face and scalp are richly supplied. The meshwork of sympathetic nerve fibers in the arterial walls are believed to convey the sensation of pain to the central nervous system by three different routes.

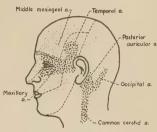
Because of the multiplicity of pain patterns and mechanisms in the face, confusion may sometimes exist as to diagnosis. In certain cases successful treatment may be difficult or impossible. A more thorough appreciation of both the extent and limitation of our knowledge of facial pain may insure that more patients will be successfully treated, and fewer patients made more miserable by an ill-advised procedure.

TIC DOULOUREUX

Trigeminal neuralgia, or tic douloureux of the Vth nerve, is so common as to be well-known to the medical profession and the laity. It is equally well-known that it may be successfully relieved by alcohol injection of the branches of the nerve or by surgical division of the posterior root. Unfortunately, this treatment is too often applied to other forms of facial neuralgia, with indifferent or poor results.

The pain of trigeminal neuralgia is flashing, shooting, darting, stabbing, suggesting needle-stabs or fire. It is felt superficially in the skin. The pain occurs in paroxysms between which there is no pain. In the beginning paroxysms are infrequent and last only a few seconds. As the disease progresses the paroxysms become more frequent and of longer duration, lasting several minutes. Ultimately the pain is nearly constant. Pain seldom occurs after the patient has gone to sleep. Early in the disease there may be remissions lasting several months or years. The pain is limited

to one or more divisions of the Vth nerve (Fig. 1), the second being most, the first least, common.



DISTRIBUTION OF ATYPICAL NEURALGIA. CORRESPONDS TO VASCULAR TREE.

Figure 1

The pain is fired by the trigger zone—an area on the face or in the mouth, stimulation of which initiates a paroxysm of pain. Stimuli of the trigger zone consist of drinking, chewing, talking, or touching the zone with finger or other object. The patient may be compelled to abstain from eating and drinking, and so become quite run-down. There is no sensory loss or other objective sign.

Constant pain in the trigeminal area is not tic douloureux. If associated with loss, or even diminution, of sensory function it is suggestive of intracranial tumor.

The etiology of tic douloureux is not known. No pathological lesion has been demonstrated in skin, nerve, ganglion, or central nervous system. There are many theories. It has been suggested that it is the result of senile changes in the skin, or in the ganglion. Grant has recently suggested that it is a form of the thalamic pain syndrome.

The incidence by sexes is two women to one man. It is not especially a disease of old age. More patients are treated for it in the fifth and sixth decades, but many of them have had it for years. It is not uncommon in the third and fourth decades, and has been seen at the age of ten years. It is bilateral in 0.5 per cent of cases. In the majority of cases it is on the right side. Most persons who have this disease conform to a certain type. They are of the pyknic physical type—square and chunky with broad face. In disposition they are

^{*}Presented by invitation to the Greenville County (S. C.) Medical Society, April 5th, 1943.

extrovertive, sociable, talkative and good-humored. Between the paroxysms of their pain they are happy in the respite and do not worry about the next attack. They seldom become addicted to drugs.

The only satisfactory treatment of true trigeminal neuralgia is alcohol injection of the trigeminal branches, or surgical division of the posterior root of the nerve. Extraction of teeth and other operations about the mouth, nose or sinuses are futile. Drugs, vitamins and cobra venom at best benefit only partially and temporarily. Morphine dulls the severe pain but little, and is resented by most patients. Phenobarbital or similar sedative is the most helpful drug for short periods. By reducing the irritability of the nerovus system it decreases the frequency of paroxysms. Inhalation of trichlorethylene alleviates, but does not prevent, paroxysms.

Alcohol injection of the affected branch gives relief for from six months to two years, after which the nerve regenerates and pain and sensation return. The fibrosis produced by two or three successive injections in many cases effectively prevents another infiltration of the nerve. Alcohol injection is recommended for old or decrepit patients whose life expectancy is short. It is also frequently employed to acquaint the patient with the anesthesia with which he must become reconciled if he is to obtain permanent relief. Young, healthy individuals are sometimes urged to have the operation at once, since it is inevitable. It also spares the motor root, which is paralyzed by injection of the third division.

Tic douloureux of the IXth nerve (glossopharyngeal neuralgia) is uncommon—one case to 100 cases of trigeminal neuralgia. The glossopharyngeal is a sensory nerve supplying the nasopharynx, the posterior wall of the pharynx, the palatine fossa and tonsil, and the under surface of the soft palate. It also carries taste sensation from the posterior third of the tongue.

Since the distribution of the IXth nerve borders upon that of the Vth in the mouth, glossopharyngeal neuralgia is sometimes confused with trigeminal neuralgia. Glossopharyngeal neuralgia consists or paroxysms of lightning-like pain in the region of the tonsil or in the throat. It is fired from a trigger zone in this area. The trigger is pulled by coughing, swallowing or yawning and by taking food into the mouth. The diagnosis is made by cocainizing the trigger zone which temporarily prevents paroxysms. Frequently pain radiates to the ear, presumably by the nerve of Jacobson and the tympanic plexus.

Permanent relief is afforded by doing a unilateral suboccipital craniotomy and dividing the IXth

nerve intracranially. This causes anesthesia in the area supplied by the IXth nerve without causing any motor loss.

Geniculate neuralgia is relatively rare. The VIIth nerve is primarily the motor nerve of the face. It has, however, a sensory component whose fibers arise in the geniculate ganglion. The preganglionic portion of the nerve is the nervus intermedius (nerve of Wrisberg); the postganglionic fibers, the chorda tympani. The chorda tympani supplies taste to the anterior two-thirds of the tongue and contributes, with the IXth nerve, to the tympanic plexus.

In tic douloureux of the nervous intermedius (geniculate neuralgia) there are paroxysms of pain in the ear. A trigger zone is occasionally demonstrated in the external auditory canal near the eardrum.

Geniculate neuralgia has been relieved by intracranial division of the nerve of Wrisberg. More often, however, inability to be certain of the nerves involved causes neurosurgeons to divide the IXth nerve also. The only sensory loss after division of the nerve of Wrisberg is slight diminution of sensibility of the ear-drum.

Briefly, the true neuralgias of the face are characterized by paroxysms of sharp, stabbing pain. During intermissions between paroxysms there is no pain. The pain is superficial and is limited to the distribution of the nerve affected. Resection or alcohol injection of the nerve gives complete relief from the pain.

ATYPICAL FACIAL NEURALGIA

Atypical facial neuralgia applies to pain in the face and head which corresponds anatomically to the distribution of the vascular tree. It has been extensively classified and subclassified, and dozens of special terms have been employed, depending upon the region of the face or head principally affected. It is not relieved by division or alcohol injection of the Vth nerve. The best known neuralgia in this group is Sluder's, or sphenopalatine neuralgia.

The pain is deep-seated, burning, aching and throbbing. In many cases the pain is continuous, with the superimposition of attacks lasting hours or days in which the pain is more severe. This may continue for months or years. The patient tolerates the constant pain, but complains bitterly of the recurrent attacks of severer pain. Some patients have attacks of pain lasting hours or days; between attacks they are free of pain. Attacks occur with variable frequency, from several times a week to every few months. Attacks frequently begin at night and awaken the patient, and sleep is impossible for the duration of the attack. The patient suffers far more from the chronicity than from

the intensity of the pain. The pain is relieved by morphine and is alleviated by many of the analgesics. There are no trigger zones.

The pain corresponds anatomically to the distribution of the branches of the external carotid artery (Fig. 2). It is most intense deep in and



OF THE FIFTH NERVE

Figure 2

around the eye, in the malar region, in the temple, and in the preauricular region. It misses the ear and appears in the posterior auricular and suboccipital regions. From these main stems of the arterial tree the pain fades out indistinctly into the zones between the vessels. Occasionally pain extends along the course of the carotid artery in the neck. It is often bilateral and frequently shifts from one area to another on one or both sides.

Many patients have pain only in the region of a single branch of the external carotid artery. This fact accounts for many of the terms employed to designate the varieties of atypical neuralgia: "migrainous neuralgia?"—pain in the region of the temporal or middle meingeal artery; buccal neuralgia, Sluder's neuralgia, and sphenopalatine neuralgia, "lower-half headache"—pain in region of the internal or external maxillary arteries; occipital neuralgia, etc.

There are points of tenderness where certain arteries—the temporal, external maxillary and occipital—can be palpated against bone structures, and at the carotid bifurcation. Firm pressure at the painful points has a variable effect on the pain peripheral to the point. In some patients it diminishes the pain, and patients sometimes utilize this method themselves to obtain temporary relief. Other patients state that pressure aggravates the pain.

Sympathetic phenomena are manifested in 50 per cent of cases—lacrimation, conjunctival injection, edema of the lids or face, stuffiness in the nostril and watery nasal discharge. Occasionally nausea and vomiting occur.

Atypical facial neuralgia affects women chiefly. It is more common in younger individual thans is trigeminal neuralgia. Patients are generally of the

hyposthenic type—introspective, tense, frequently hypochondriacal. These patients tend easily to become addicted to drugs.

Certain cases of atypical neuralgia are certainly secondary to systemic conditions, such as allergic or endocrine disturbances. Others are secondary to local diseases or abnormalities in the nose, mouth or sinuses.

In the majority of patients the neuralgia appears to be a manifestation of abnormal activity of the sympathetic nervous system. Whether the psychoneurosis present in many of the patients is secondary to the pain, or is the cause of it, is debatable. Certainly they are unstable emotionally and are frequently poorly adjusted. They are often suggestible, and any form of treatment benefits some temporarily.

Atypical neuralgia is not relieved by alcohol injection or root section of the Vth nerve. The misery is only increased by an annoying anesthesia superimposed upon a chronic pain. Other disease or abnormality should be corrected. The hypothyroid patient may be relieved by thyroid extract.

All conservative means should be tried. These include the choline compounds and the sympathetic and parasympathetic stimulants—epinephrin, ergotoxin, amyl nitrite, physostigmin and atropine. Desensitization to histamine may relieve the patient whose pain is produced or aggravated by a test dose of histamine. Cocainization of the sphenopalatine ganglion temporarily relieves buccal neuralgia. Excision of the ganglion or injection of alcohol does not give permanent relief. In case the pain is limited in area, infiltration of the artery supplying the area will give temporary relief and may terminate an attack.

Surgical treatment of atypical neuralgia is based on attempts to interrupt the pathways by which pain originating in vascular walls reaches the central nervous system. It is believed that there are three such pathways. Of the sympathetic fibers which accompany the arteries in their sheath and in surrounding tissues. (1) some pass downward in the carotid sheath and enter the spinal cord by the upper thoracic and lower cervical roots, (2) some leave the carotid at the bifurcation to enter the cervical sympathetic chain, while (3) the remainder enter sensory branches and connections of the vagus nerve.

The simplest surgical procedure, where a limited area of pain warrants it, is resection of the artery and vein which supply the area. Resection of the external maxillary artery at the lower edge of the mandible often permanently relieves buccal (Sluder's) neuralgia. Resection of the temporal vessels may relieve temporal neuralgia. Intracranial resection of the middle meningeal artery may relieve pain in the temple and eye. Too often, however,

following any one of these procedures, pain returns after a period to another area of the same, or to the opposite, side.

Other operations consist of resection of the cervical sympathetic, excision or alcohol injection of the thoracocervical sympathetic ganglia, resection of the sensory branches of the vagus, and periarterial sympathectomy of the carotid artery or bulb. Some patients benefit by these procedures.

Atypical facial neuralgia is a very different syndrome than the typical, true facial neuralgia; yet the two are often confused because of their anatomical juxtaposition. In nearly every respect they are in marked contrast—in the personality of the patient, in the character of the pain, in their incidence, and, most important of all, in their proper treatment.

POSTVACCINAL ENCEPHALITIS—VACCINATE EARLY IN LIFE

(Thos. Anderson & Peter McKenzie, Glasgow, in The Lancet, Dec. 5th)

Five hundred thousand persons were vaccinated in Glasgow during July, 1942. There were seven cases of post-vaccinal encephalomyelitis, of which two died; six of the seven cases were in persons over five years of age vaccinated for the first time.

The cases all occurred within six to 14 days of vaccination. The local vaccination response was normal in all cases except one, in which it was described as severe.

In the three most severe cases (3, 5 and 6) deep coma was the most prominent feature. Cases five and six were the only two receiving anti-vaccinal horse serum. This was not given as a last resort. Both patients died. The recovery of patient three, quite unexpected in view of the apparent severity of the condition on admission, would lead us to be very disinclined to hazard a prognosis in any severe case, and, therefore to place any stress on an isolated recovery after the use of a particular treatment.

PAPILLEDEMA IN GENERAL DISEASES

(P. J. Leinfelder & W. D. Paul, Iowa City, in Dig. Ophthal. & Otolaryng., April)

The occurrence of a choked disk-type of elevation of the nerve head in the course of a general disease has often led to difficulty and confusion in diagnosis. Examination of the fundus in these circumstances has led to the tentative diagnosis of brain tumor, but further investigation directed toward proving this has been in vain. However, the spinal fluid pressure is often elevated and may convince one that primary cerebral disease exists. Increased intracranial pressure is often a finding in neuro-retinitis associated with general disease. In most instances no evidence of cerebral neoplasm can be obtained from clinical or postmortem examination, yet the appearance of the nerve head and the increased spinal fluid pressure remain as contradictory and confusing evidence.

A STANDARD of VALUES—If a nation values anything more than freedom it will lose its freedom; and the irony of it is that if it is money or comfort it values more it will lose that, too.—Somerset Maugham.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

TREATMENT OF HYPERTROPHY OF THE PROSTATE GLAND

HYPERTROPHY of the prostate gland was for decades treated by suprapubic prostatectomy. In most of these cases surgical treatment was not done until the obstruction had become practically complete and, naturally, at this time the patient's general condition was not good and sometimes there was an impending uremia which often carried the patient away before much could be done.

As time went on better methods of treating the patients before operation were used. It was found that in some cases, especially where there was impairment of the kidney function and perhaps mild uremia, only by careful and sometimes prolonged treatment could a patient by improved up to the point where an operation was possible with reasonable hope of success. At the same time it was realized that patients in fairly good condition would do much better if given proper preöperative treatment. All of these things together with the improved instruments and techniques have made the transurethral operation a highly satisfactory procedure.

Perineal prostatectomy was developed and popularized by Young. This offered another excellent method of relief in case of prostatic hypertrophy.

Advocates of these two methods of surgical relief from prostatic hypertrophy argued strongly in favor of the method preferred in the various clinics, and the discussions became very much like the earlier debating of cholecystectomy versus cholecystostomy. As a matter of fact, in the hands of skilled operators either method gave satisfactory results.

The transurethral method of relief from prostatic obstruction was advocated by many but it remained for Maximilian Stern to develop a method whereby the obstructing portion of the prostate gland might be removed directly by means of an electro-surgical instrument operated entirely through the urethra. Most of the instruments in use today are modifications of the original Stern resectoscope.

The difficulty which Dr. Stern had at first was in getting an electric current which would cut tissue rapidly and coagulate bleeding vessels. From time to time improvements were made along this line. Now we have an instrument which will deliver both cutting and coagulating currents so that resection can be done with great rapidity and coagulation of the bleeding vessels can be accomplished

without any difficulty whatever. With the slight modifications of the original Stern instrument now in use, and with the greatly improved cutting and coagulating currents, practically the entire prostate gland may be resected through the urethra.

It is occasionally advisable to remove the prostate by the suprapubic method and once in a while one by the perineal route. However, in the vast majority operated upon in this clinic now the transurethral method of removal is chosen. Once in a while an enormously enlarged prostate requires resection at two sittings.

The preöperative treatment has been steadily improved to the point of converting most formerly bad risks into fairly good risks. This requires time, patience and a great deal of very careful treatment and building up. Continuous drainage is not used so much as heretofore. It is far better in most cases to catheterize at intervals before resection than to put in an indwelling catheter. Sometimes, however, continuous drainage is necessary. An indwelling catheter if kept in long enough will produce bladder irritation which is slow to clear up even after the prostate is removed.

Resection can now be done very rapidly. Most operations require only 30 to 45 minutes. After operation continuous drainage is kept up for from three to four days, occasionally slightly longer.

Infection and hemorrhage are the two complications most important because of their frequency and danger. Effective coagulating of the bleeding vessels at the conclusion of the operation usually precludes any bleeding, and if there is any it can be controlled by further coagulation.

Sulfathiazole, or some other drug of this class, is usually given for three or four days about the time the indwelling catheters are removed. This I believe has aided greatly in preventing complications.

Many of these patients are anemic and lacking in vitamins. On admission to the hospital they are usually given treatment to make up these lacks and to restore the kidneys to as nearly normal function as possible. This gets patients ready to go through the operation with little trouble where otherwise they might not make it at all. The treatment is kept up during and after operation and other treatment is added from time to time as necessary.

Transurethral resection has reduced the mortality enormously. It has made convalescence far more rapid and easy. Patients can return to work earlier. The greatly reduced period of hospitalization reduces the expense which is quite an item to many of these patients. In years past some have been over-optimistic about the results and have left the impression that all patients recover quickly and completely. Many of these patients who come for prostatic resection are advanced in years, have many of the infirmities which accompany this pe-

riod in life, including various types and combinations of cardiovascular disease, and naturally do not make a rapid and complete recovery. Also, it is not always possible to send patients home after a few days.

For best possible results from a prostatic resection the patients must remain under the care of their own doctor for a long period of time after returning home. Rest, fresh air, sunshine, proper food, supplemented by vitamins and especially thiamin chloride given hypodermically, will do much toward restoring a patient to the degree that he can resume his usual work. It must be remembered that the treatment which a patient receives after leaving the hospital is of vital importance.

SAOCK THERAPY OF MENTAL DISORDERS (N. D. C. Lewis, New York, in Bull. N. Y. Academ. of Med., April)

If statistics on insulin therapy are taken as indicative of therapeutic results in schizophrenia, every possible stated percentage of "cures" can be found from Sakel's 70% to Langfeldt's experience of "no cures" in the clear-cut nuclear cases. When the diagnosis is just "schizophrenia," results up to 60 per cent "recovered" or "improved" by means of any therapy do not indicate the relationship between the therapy and the disorder. This situation demands complete and accurate information as to the form of schizophrenia, as to the special characteristics of the individual as a patient, and as to the factors which will make possible the establishment of criteria for recovered, social recovery, improved, not improved, and so on, which will replace the present chaotic state of affairs in this respect on which statistics are prepared.

Possibly the shock methods should be used only as adjuncts in a total therapeutic approach, including psychotherapeutic interviews with the physician, physiotherapy, occupational therapy, physical education, and a program to promote socialization.

Electrically-induced convulsion therapy is particularly satisfactory in the affective disorders and especially in "involutional melancholia;" but it cannot be regarded as a specific. Its value in chronic schizophrenic illnesses is more of the nature of promotion of social improvement than fundamental changes. Its effect in recent cases is much more favorable, and early treatment is well worth trying. Some workers have better results in schizophrenia when a comparatively large number of convulsions are given, the general tendency being to afford too few to promote a successful outcome.

Combinations of the various types of shock therapy may be particularly valuable in certain cases as it does not follow that if one method—insulin, for example—fails to produce a favorable effect, some other method—such as metrazol or electric shock alone or in combination with insulin will not produce good results.

MANY REJECTED LATER FOUND ELIGIBLE

(H .R. Edwards, New York, in Il.-Lancet, April)

The Department of Health of New York City has provided a complete chest examination for 94 per cent of the men rejected for pulmonary defects at local Army physical examination centers. Many of the lesions of a disputed character cause the individual to be rejected, will later be found to be acceptable without undue risk. In any event, it is the responsibility of the Army to determine eligibility.

DEPARTMENTS

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

VISION AND THE VITAMINS

Ir the writer's office and those of his local confreres indicate the layman's belief in the efficacy of the cure-all properties in the use of all the vitamins for visual troubles, then every doctor's office has become an overworked bureau of information in this field of medical treatment either to condemn or to praise the value of the vitamins according to his own lights.

The use of the vitamins has become an obsession of the public to such an extent that the layman uses them without rhyme or reason and without the benefit of medical advice or supervision.

I find an ever-increasing number of patients who are using some one or a combination of the concentrated vitamins for self-administered treatment of their eye problems, based upon the advice of friends and via other lay channels which promote their use. This self-administered use of them is particularly prevalent at the present time among the men and women of military age for the purpose of augmenting visual acuity where the visual requirements are substandard for the selected branches of the services. These people believe that the ingestion of large quantities of vitamins will cure defective vision no matter what the anatomical or pathological etiology may be. In the presence of any type of refractive error responsible for the visual defect or of a squint the question is often asked if vitamins A or B or large quantities of carrots will not cure their eyes? Many patients are seen who have been eating carrots in great quantities for several weeks for aid to vision which is presumed to be contained in their carotene content.

The use and abuse of the vitamins needs no special comment, because their needs by the human body have been carefully investigated and clearly explained in current medical literature, and their lack in the body is known to produce certain eye signs and symptoms which also have been explained. From these writers and investigators it has been deduced that the average healthy young individual who partakes of a generous and well-balanced diet has no need to supplement his vitamin quotient by the use of prepared vitamins. The indiscriminate use of the vitamins by such individuals should be discouraged by the medical profession if for no other reason than that of the economic factor involved.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

MANAGEMENT OF TRAUMATIC INJURIES OF THE HAND

All of Us have hand injuries to treat and if we will maintain an aseptic technique we can do this kind of work with great satisfaction to the patient and credit to ourselves. It is of great importance that 1) no antiseptic be put in the wound, and 2) all those carrying out the procedure be masked.

By a thorough preoperative examination of the injured hand, done in a few minutes, one can determine the nerves and tendons injured and the general nature and extent of the injury.

All wounds are contaminated, but within four to six hours from the time of initial injury bacterial invasion has not taken place. It is possible to convert a grossly contaminated wound into a clean one by abundant use of a bland neutral soap and sterile water. All wound recesses should be exposed and properly cleaned, with removal of blood clots and gross foreign material in 10-30 minutes; chemical antiseptics are unnecessary. Remove all contaminated and devitalized tissues.

Primary suturing of nerves and tendons. Of prime importance are preparation of the wound in the time limit of 4-6 hours. Individual methods of coaptating nerves and tendons are of secondary importance. Rest is essential. Properly applied compression dressing prevents secondary edema, stagnation of venous and lymph flow, pooling of secretion and separation of tissues. Place the hand in the position of function with wrist fully dorsiflexed and fingers abducted and flexed at 35-45° of flexion. Do not fail to place the hand or fingers in the position of rest following suture of devitalized nerves or tendons.

Preöperative examination is done with nose and mouth adequately covered and the use of sterile gloves and instruments; radiographs when indicated.

Wash over a Kelly pad. A tourniquet is used to obtain a bloodless field and never anything narrower than a blood pressure cuff is used. This is first well padded with cotton.

Suturing of tendons and nerves is a specialized major operation, never an office procedure. Sutures should be of the smallest size adequate for needs; stainless steel wire and silks as indicated. Accurately suture superficial fascia over reunited tendons to prevent crippling adhesions.

Sterile sponge rubber is used to obtain a wellfitting compression dressing. Anterior splints and specialist plaster maintain the hand in the position

^{1.} W. B. Hutchinson, Scattle, in Northwest Med., May.

of function. We never use a circular application of plaster on the hand and forearm.

Of course it is more convenient to do this work in a hospital, but all except the most severe injuries of this nature can be entirely satisfactorily treated and with excellent result in the office.

TREATMENT OF COMMONER DERMATOSES

Who of us will not agree with the opening sentence? And then go on to learn from the author's1 plain statements of plain facts?

The practitioner who consults dermatologic textbooks is likely to be more confused than assisted.

Intertrigo and Tinea Cruris.-The distinction is an easy one to make. Tinea has a well-defined border from which the fungi can be demonstrated without difficulty. Intertrigo almost invariably has a fissure in the lowest portion of the apposed surfaces, and an ill-defined border. Tinea cruris usually clears up in a couple of weeks with the daily application of a mild sulfursalicylic (2%) ointment, or Whitfield's ointment in quarter strength. For use in the groin, I disregard the textbook injunction to avoid greasy applications. I have never seen tinea cruris in a woman.

Intertrigo once well established, has a remarkable chronicity. Because of the moisture, no salves are used. If calamine won't cure it, nothing will. The act of prescribing something different every week is a mistake. Pick out a reliable remedy and stick with. When infection (usually staphylococated mercury ointment (2-5%) and particularly sovereign remedy. Ultraviolet light contributes considerably to a speedier cure.

Infectious Eczematoid Dermatitis .- This is often secondary to some infected wound on the lower extremities. The application of any salve (including the current favorite, sulfathiazole) tends to make it worse. Wet dressings of potassium permanganate (1-3000), or if intensive involvement requires a bath (1-30,000), is efficient.

Impetigo Contagiosa.—There are two types: streptococcic-easy to clear up, the thick, golden crusts responding quickly to the use of ammoniated mercury ointment (2-5%) and particularly to the application of sulfanilamide (4 per cent in aquaphor). For the staphylococcic bullous lesions (impetigo of the newborn), or with thin, varnished crusts, smaller and more discrete lesions, gentian violet (2 per cent aqueous) is almost specific. Sometimes calamine lotion dries up staphylococcic impetigo, but here one runs the risk of sealing up

Verrucae.-Electrodesiccation is the treatment of choice. If you burn too deeply, you get a scar; if you don't burn deeply enough, the wart recurs.

1. T. S. Saunders, Portland, Ore., in Northwest Med., May.

Anesthetizing the nerves at the proximal joint (with warts on the finger) is less painful than anesthetizing about the wart. Apply a tourniquet about the base of the finger; stop the desiccation when the wart gets "puffy"-has separated from its base by steam. The wart can now be lifted out of its bed. Desiccate the base, even though this may delay healing a bit. Gentian violet (2%) is satisfactory postoperative dressing.

Bi- and tri-chloracetic acid works almost like magic against the venereal wart (verruca acumi-

Ezcema.-The most valuable agent (röntgen ravs excluded) is:

Crude coal tar-2-5 per cent Lanolin, sufficient to mix Zinc oxide 2-5 per cent Petrolatum a.s.

But there are more failures than cures. It is of signal service in infantile eczema, which it often clears up regardless of etiologic factors; and in eczema of the legs.

Contact Dermatitis.-Itching salves regardless of what is in them fail to relieve. Continuous wet dressings of aluminum subacetate (1/2 %) is best: if generalized, baths are the only effective relief (starch and soda, oatmeal).

Detmatophytosis of the Feet,-Whitfield's ointment (compound ointment of benzoic acid) is most effective. Often the patient makes an attempt to "kill the germ" with some strong remedy and we are called upon to treat a contact dermatitis before we can get on with the dermatophytosis. Exudative states should be cleared up with wet packs of potassium permanganate (1-3000) before attempting the use of salves. In chronic eczematous conditions of the feet, fungous in origin, crude coaltar paste is sometimes very effective.

Scabies.-Reply on the old sulfur and balsam of peru, 10% of each in lanolin and petrolatum.

Psoriasis.—Chrysarobin. Do not use in acute psoriasis (very uncommon), or on the scalp and face, and good results will be obtained.

Furuncles.-Infiltrate the skin overlying with novocaine (2%), insert the knife horizontally through the anesthetized area and then bring it up through the skin.

Rosacea.-Many patients who have run the entire gamut of examinations and treatments clear up under local applications of Darier's paste-

R Resorcin	.7
Sulfur precip.	2.2
Zinc oxide	
Starch aa.	6.
Lanolin	
Petrolatum aa.	7.5

For recalcitrant cases—

R Betanaphtol 2
Sublimed Sulfur 4
Balsam of Peru 15
Lanolin
Petrolatum q.s. 30

This is a very strong salve and should not be used unless the first-named ointment has failed.

DENTISTRY

J. H. GUION, D.D.S., Editor, Charlotte, N. C.

THE PROBLEM AND CONTROL OF DENTAL CARIES IN CHILDREN

Dental decay is a progressive decalcification of the enamel and dentin by lactic acid formed, it is generally accepted, as a result of fermentation of carbohydrates. On the basis of this broad concept of the disease, four major methods for the prevention and control of dental caries have been advocated 1) oral hygiene, 2) nutrition, 3) restriction of carbohydrates in the diet, 4) interruption of the carious process by treatment with dental-filling materials.

An article¹ which is at once conservative and helpful in its discussion of this baffling problem is herewith abstracted. Most statements on this subject are vague and discouraging. This is definite and encouraging. It arrives at conclusions of what should be done, and that doing these things is productive of such great benefit as to fairly solve the problem of cure (in the sense of "caring for") if not of prevention.

The first three of these represent preventive methods which have been promoted in this country for the past two or three decades. However, since dental caries has not decreased in this country, it is generally agreed that singly or in combination these preventive procedures have failed. Although the sale and use of toothbrushes and tooth cleansing agents have increased tremendously, the expected reduction in dental decay has not been demonstrated. Recent experiments showed that when free sugar was placed in an open cavity or in a caries-susceptible area, the pH dropped to levels as low as 4.0 in three minutes. This fact, together with the finding that saliva or dissolved enamel neutralizes the acids in a short time, indicates that most of the damage to the tooth is done during or shortly after meals. In general the timing of the toothbrushing habit has not been in conformity with these observations.

This indicates that brushing the teeth with cooking soda *directly* after the taking of any food, at or between meals will prove a valuable preventive of

dental caries for those who perseveringly persist in the practice.

Since teeth are calcified structures, it seemed likely that resistance to decalcifying forces could be increased by fortifying the diet with calcifying elements for the proper formation of the teeth and for the maintenance of their integrity. Rigidly controlled experiments have failed to prove, however, that dental caries can be prevented by fortification of the diet. Persons with evidence of gross deficiencies in nutrition, such as rickets and osteonalacia, have no more dental caries than those without signs of dietary deficiency diseases.

Work of a number of investigators indicates that prevention of dental caries by rigid restriction of carbobydrates in the diet as possible. This method of caries prevention is impracticable in the United States where the annual consumption of sugar per person has shown a steady increase from eight pounds in 1823 to 108 pounds in 1940.

Long clinical experience has established it that the loss of teeth attacked by caries can be prevented or indefinitely postponed by proper treatment and placement of dental-filling materials. Nicollet County (Minn.) school children had slightly more carious permanent teeth than children in Hagerstown, Maryland, yet they had lost only half as many permanent teeth as the Hagerstown children. The only reasonable explanation of this is the finding that Nicollet County children had approximately twice as many carious teeth filled as had Hagerstown children. The essentials are early detection of the carious lesions and treatment with dental fillings.

The inhabitants of the Island of Tristan da Cunha which lies in the South Atlantic have long been known to be unusually free from dental caries. The cause of this remarkable condition, until recently, had been uncertain. Six years ago, Dr. Reider F. Sognnaes, a member of a Norwegian expedition, obtained a number of sound exfoliated decidous crowns and a few permanent teeth, most of the latter being carious. The significant finding was the relatively high fluorine content found in the enamel of both the deciduous and permanent teeth. These facts served to indicate that the Tristanites continued to ingest throughout life an unusually high amount of fluorine. Observations in a number of other places and studies in experimental animals support the view that increase in fluorine consumption lessens dental caries.

What application of these facts can be made to the reduction of dental caries in the human? One obvious way would be to treat public water supplies with fluorine to the extent that the product should contain 1.0 p.p.m. of fluorine. Probably this method could be employed with safety if carried out under rigid control. However, the water

^{1.} J. W. Knutson & W. D. Armstrong, Minneapolis, in Il.-Loncet, May.

intake of individuals varies and the intake in warmer climates is higher than in the cooler climates. There is some risk, until evidence to the contrary is produced, that the addition of fluorine to communal water supplies might cause toxic results. Furthermore, any benefit to be derived from this procedure would accrue only to those persons who use the high-fluoride water during the time of the formation of their teeth.

At present, then, the only practical method of preventing tooth loss from dental caries is to have children's decidous teeth examined and needed fillings placed at two years of age and at regular intervals thereafter until 10 to 12 years of age, when exfoliation of deciduous teeth is completed. Care of the permanent teeth should begin at age six and continue throughout life. This system is effective in preventing tooth loss and is far more economical than dental neglect which results in the loss of teeth and the need for elaborate and costly replacement appliances. Because of these facts the method has been called Protective Dentistry. It does not prevent dental caries but protects against loss of teeth attacked by caries.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

MANAGEMENT OF THE PATIENT WHO HAS RECOVERED FROM ACUTE CORONARY OCCLUSION

This discussion is confined to a consideration of acute obstructions followed by infarction of the myocardium due to atherosclerosis and thrombosis. The anatomical changes which subsequently take place in the heart muscle are directly related to the course of the illness and, consequently, to therapeutic procedure.

It is during the first two weeks that serious and unforeseen upsets are most likely to occur. Death due to ventricular fibrillation or to abrupt cardiac standstill; rupture of the heart wall; various arrhythmias, particularly ventricular tachycardia and auriculoventricular heart block; and embolization to the lungs or to a peripheral artery, of which the source is a mural thrombus within one of the ventricular cavities. If the third week has been completed without mishap, the members of the patient's family may breathe more deeply and sleep more soundly, since they can be assured that the outlook for recovery is favorable. Severity of the damage to the cardiac and coronary artery reserve prior to the acute episode is of little help in making this estimate; clinical symptoms and signs and

1. R. L. Levy, New York, in Bull. N. Y. Academ. of Med.,

the trend following the attack are the only dependable guides.

Shortly after occlusion has occurred it is impossible even for the experienced observer to make an accurate prognosis with respect to survival or the degree of subsequent functional recovery.

The length of time that a patient should remain in bed after an attack of cardiac infarction is now usually six weeks; but this time should be varied according to the circumstances in each case. Signs of congestive failure demand prolongation to a point at which all such signs have disappeared. The leukocyte count rises promptly following occlusion and is increased as the area of necrosis grows larger. On the average and in the absence of complications leukocytosis disappears in the course of five days. One of the best guides to the rate of healing of an infarct is the sedimentation rate of the erythrocytes. This usually does not rise significantly until the third or fourth day, reaching its peak between the fourth and eighth days. It reflects delicately both healing and any extension of the process. In the average case, it does not return to normal for about a month. When it remains elevated longer than this, it is well to suspect either incomplete healing, the presence of an intracardiac thrombus or some complication. such as pulmonary infarction. It is wise to keep the patient in bed until the sedimentation rate has reached a normal level.

The rate of the heart beat usually returns to normal in the course of 10 days. Persistent tachycardia, particularly if associated with a diastolic gallop rhythm, is an index of severe cardiac damage and calls for more than the usual period of bed rest.

When the patient first gets out of bed, it is helpful, in order to prevent the collection of blood in extremities grown flabby from disuse, to apply Ace bandages to the feet and legs. These may be put on before the patient leaves his bed and removed after he has returned to it; continue bandages during the first week that the patient is up.

Painful shoulder following coronary occlusion is not uncommon; usually there are no changes in the x-ray picture; the left shoulder more commonly affected. Heat, massage and passive movement afford some relief. The tendency is to gradually abate.

THE TECHNIC OF HOME CANNING

VERY WELCOME is this article¹ showing that the editor of one of our best State journals recognizes the importance of the family doctor as an adviser in all matters of health. Very timely it is, and its pith is passed on to our readers to help them to advise in their localities.

^{1.} Dorothy L. Hussemann, Madison, in Wisc. Med. Jl., May.

The advice of the physician in a community should be sought concerning all matters of health. With home food preservation greatly on the increase this becomes a community health problem. Many families will be grateful for advice given them by members of the medical profession in regard to safe methods of home food preservation.

Among the methods are canning, freezing, drying, brining, and common storage. There are at least two types of danger inherent in the use of canning—contamination during the preparation and change in food value.

Only fresh fruits and vegetables of prime quality, of excellent color and flavor, should be chosen. When being canned, the so-called acid foodswhich include fruits, tomatoes, pickled beets, ripe pimentos and rhubarb-are less likely to become infected by Clostridium botulinum than asparagus, peas, beans and corn. The use of canning powders is to be discouraged because successful canning is possible without them, and their physiologic reaction is dubious. All foods should be cleaned thoroughly. If necessary wash repeatedly and rapidly lifted out of its washing water, then put directly into clean, hot jars which have been examined and any chipped or cracked jars rejected. Water or sirup is then added to the food in the jar, the cover of the jar fastened into place, and the food processed. This is the "cold pack" method. By quick preheating before the food is put into the jar in the "hot pack" method the heat penetrates the plant tissue quickly, there is greater ease of sterilization and the food shrinks.

The chief danger of these canned foods to health is botulism. The active agent in the cause of the disease is the toxin given off by C. botulinum, Unfortunately there are times when the food will appear not to have changed. Acid foods are processed at the boiling point of water. The combination of acid plus this degree of heat for the recommended length of time seems sufficient to destroy the cells of C. botulinum with the consequent prevention of the formation of the toxin. The nonacid foods, however, require a higher temperature in order to sterilize them, and, for safety's sake, all foods of this group must be heated to a temperature above the boiling point of water. Only through the use of the steam pressure cooker in processing can nonacid canned foods be regarded safe for human consumption.

Few pressure canners are being released to the market now. Women may try other methods in order to try to save food which they have grown. Food processed by any other method than the steam pressure canner or the pressure cooker should be boiled vigorously for 15 minutes in a covered pan before serving. Under no circum-

stances should food so processed be tasted before such heating occurs. The pressure canner gauge should be checked for accuracy regularly and the canner used according to directions.

If a large quantity of food is washed, peeled if necessary, and allowed to stand in a warm kitchen, microörganisms grow well on this moist, warm food. The same applies to spoiled or inferior quality fruits and vegetables. When the food is put into jars, if some of them must be held because there is not room for all in the processing vat, almost ideal circumstances for the growth of microörganisms are produced. Working with small quanties of food and finishing each lot before going on to the second would prevent both of these errors.

The jars should be cooled as quickly as possible after the processing. Nothing should be placed on the jars at this point and they should be placed at some distance from each other so that the air may circulate and facilitate cooling. Check after a few days to make sure the food is keeping. Final storage should be in a cool dark, dry place.

TUBERCULOSIS

J. Donnelly, M. D., Editor, Charlotte, N. C.

CARCINOMA OF THE LUNG

THIS DISEASE, which now totals 15% of all cancer, is discussed at some length by Richard H. Overholt in the last edition of Diseases of the Chest. As a rule, the patient visits his doctor sufficiently early to avert certain death, if proper diagnosis is made and proper treatment is instituted, but the symptoms are so indefinite and so similar to the symptoms of other lung diseases, especially tuberculosis, that delay is frequent. The author states that in pulmonary cancer and tuberculosis: (1) there are no early reliable physical signs, (2) in the early stages a single x-ray film will usually show some abnormality, and (3) in spite of obscure clinical factors, it is possible to make an accurate diagnosis in a large percentage of cases. Furthermore, though early diagnosis is necessary for successful treatment of either, delay in pulmonary cancer is of more moment, since rest has no effect in the treatment of that disease other than to rob the patient of his only chance of cure.

The two conditions, however, are different in the age groups affected. Tuberculosis more often attacks between 15 and 40 years, whereas carcinoma affects those between 40 and 65 years. Summarizing the histories in his series of 165 cases of pulmonary carcinoma, the beginning symptoms were usually those common complaints met with in any chronic chest condition. In the order of their frequency they were as follows: cough (136),

chest pain (70), chills and fever (60), hemoptysis (61), dyspnea (56), weight loss (54), weakness (45), wheezing (10), G. I. symptoms (10) and arthritis (4). Eighty-two per cent of all patients complained of cough troublesome enough to cause them to see a physician; 92% had as a first symptom one that directed attention to the chest; 63% were incorrectly diagnosed by the physician first seen, and treatment based on these incorrect diagnoses was kept up for long periods. The incorrect diagnoses, in the order of their frequency, were as follows: tuberculosis (40), unresolved pneumonia (18), lung abscess (13), bronchitis (11), asthma (5), heart disease (4), pleurisy (4), metastatic cancer (2) and miscellaneous (9). The disease was mistaken for pulmonary tuberculosis more frequently than any other disease, which indicates that the symptoms and physical signs in both diseases are similar and that, hence, many such cases will be diverted through tuberculosis clinics. One should never be satisfied with a diagnosis of "unresolved pneumonia. Thirty-six per cent of the patients in this series put themselves under a doctor's care within a month of the onset of symptoms. The average patient saw a doctor within three months of onset, but did not have an x-ray examination of the chest for another three months. In the average case the correct diagnosis was not established until nine months after the first doctor saw the patient, and the author contends that misinterpretation of abnormal x-ray shadows was partially responsible for the delay in diagnosis, that in 98% of these cases the first x-ray picture indicated the trouble, and that in 95% of the cases it was possible to establish the diagnosis during life. He explains the fact that this was not done because, in the majority of the cases, the primary pathological process failed to produce a shadow of itself on the film or screen, and that the changes which should have been noted were secondary and highly variable in character. Lobular atelectatic shadows in the upper lobe may resemble the infiltration or cavitation of tuberculosis, and uncertain shadows in the antero-posterior film often become obvious lobular atelectatic shadows in the lateral or oblique film. The writer states that in 21% of his cases the pathologic process itself produced a discrete area of increased density in some part of the lung, and that in most of these cases the correct diagnosis was suspected immediately.

Exploratory thoracotomy was considered the second most valuable method of diagnosis and was used in every case in which the diagnosis of cancer was suspected and in which there was no evidence of metastatic disease. Biopsy by aspiration was used in only two groups of cases—cases in which there was definite evidence of an extrapulmonary extension of the growth, or where advanced age

precluded surgical treatment. The author's serious objection to relying on aspiration biopsy in the diagnosis of primary cancer of the lung is that, in the event of either a positive or a negative aspiration, exploratory thoracotomy is indicated if evidence of an extrapulmonary extension is lacking, and that needling an infected lung is not good surgical practice because of the possibility of superimposing a pulmonary suppuration; but he says aspiration can be done with safety through a small exploratory thoracotomy incision. Study of the tissue removed in this series of cases showed epidermoid carcinoma (80), adeno-carcinoma (28), carcinoma simplex (20), undifferentiated (8), unclassified (29).

Two out of every five cases examined were found to be free of extrapulmonary extension, and the percentage of all verified cases for whom there was a hope of cure was 20%. Of the series, 13% (20 patients) are all now reasonably well and free of evidences of metastatic disease, and five can reasonably be called cured, because five years post-operative time has already passed.

Reports of autopsies from the large city hospitals show that between 10 and 20% of all deaths from cancer are due to lung cancer. Reports from several hospitals year-by-year show that the number of cases of cancer of other organs remain essentially the same, while lung cancer has shown a steady increase. In the last two years lung cancer exceeded cancer of the stomach and assumed first place in the list.

The author states that the diagnostician may save valuable time for the patient if he remembers:

1) That cancer of the lung is one of the most important diseases in the age period of 40-65 years, particularly in men.

That many patients ask for help when the lesion is still confined to the lung.

3) That symptoms and signs are either absent or misleading in the early stages.

 That early lesions will almost always give some suspicious shadow on the x-ray film.

5) That there are two methods available for settling the diagnosis, bronchoscopic examination and exploratory thoracotomy.

6) That the disease is too common to be entirely forgotten and early discovery gives a reasonably good chance for a cure.

RESULTS OF HOSPITAL TREATMENT OF NARCOTIC DRUG ADDICTS

(Edi. in Jl. A. M. A., May 22nd)

A thorough follow-up study has been made of 4,766 male patients discharged from the United States Public Health Service Hospital at Lexington, Ky., during the period Jan. 1st, 1926-Dec. 31st, 1940, who had received treatment in the hospital for addiction to opium and its

derivatives, covering at least six months after the discharge of the last patient in 1940.

The patients fall into four general classes: voluntary, probationer patients, paroled prisoners and prisoner patients. A probationer patient is a drug addict who, for violation of a federal law, has been given a probationary sentence on the condition that he goes to one of the United States Public Health Service hospitals (Lexington or Fort Worth) for the treatment and remains until pronounced cured by the medical staff.

The state as to addiction of 40% of the 4,766 discharged patients could not be determined, 7% had died after leaving the hospital, 40% had relapsed to the use of drugs and 13% were still abstinent. Excluding the dead and the unknown, 75% had relapsed and 25% had remained abstinent.

An important conclusion is that the best program of treatment for narcotic drug addicts includes a period of hospitalization, not less than two months but not more than five, with acceptable employment as a prerequisite for release, and then adequate extramural supervision for three years with periodic examinations.

RADIOLOGY

Drs. Lafferty and Baxter, Editors Charlotte, N. C.

PRE- AND POST-OPERATIVE RONTGEN TREATMENT FOR BREAST CANCER

THE EVALUATION of the methods for treatment of cancer of the breast presents many problems. The terms used in recording results are confusingto say cure is often inaccurate, for it is not unusual to see recurrence after ten years; to say three-, five- or ten-year survival is better or some writers speak of three-, five- or ten-year "salvage," meaning survival without recurrence—salvage from what was almost certain destruction had not certain procedures been instituted. Then there is a classification into four stages as to the extent of the disease-furthermore there is the classification as to pathological grading of the tumor. The mode of treatment falls under the following heads, surgery or irradition, surgery and irradiation; irridation may be either by x-ray or by radium, or by both. Some advocate preoperative irradiation; and some advocate both pre- and post-operative irradiation. In evaluating the treatment, of course, the personal element enters. Some surgery is better and some irradiation is more thorough. Many articles have appeared in the literature recently reporting the results obtained by different methods of treatment. We have always felt that, if irradiation is good in inoperable carcinoma and causes a regression, it should be good before operation, and it should be of value after operation; so we are especially pleased to see this advocated with reports of results in the March, 1943, Proceedings of the Royal Society of Medicine (England).

This discussion in the Section of Radiology is

led by Air Commodore Stanford Cade. He, of course, advocates surgery but insists on preöperative and postoperative radiation. He says "a combination of treatment by radiation and surgery is not a compromise, it is an attempt to place more advanced cases, borderline cases, cases of Stages II and III into a more favourable group."

A careful study of tables shows a very definite increased percentage of survivals in every stage and group and for each period of years when radiation is used. We would like to quote and emphasize two paragraphs that summarize the tables.

"The results of modern radical mastectomy in early cases are the greatest achievement of surgery in the treatment of cancer in any site; and vet, in spite of this achievement, the number of deaths from cancer of the breast is steadily and relentlessly increasing. To correlate the very high percentage of surgical cures (in the early cases) with the high annual figure of the mortality from cancer of the breast, it is only necessary to analyze the material which presents itself for treatment, when at once it becomes apparent that only a small percentage of women with cancer of the breast can be offered the best outlook with surgery and that the remainder-the majority of patients-must rely upon radiation, either alone or in combination with surgery, to improve their chances of survival. Radiation has raised the five-year survival in Group III from 0 to 10% to the level of 25%. If all stages are taken together the figures of Watermark at the Radiumhemmet shows that a 20% five-year survival after operation alone is raised to 30% if postoperative radiation is used and to 40% if both pre- and post-operative radiation is given."

McWhirter, in his discussion, emphasizes the fact that in radiation a wider area of skin and glands is covered than by surgery, so he offers radiation (pre- and post-) as a valuable adjunct to surgery.

Richmond, in his discussion, attempts to evaluate the different methods according to stage and grade. He says "The question arises concerning the circumstances under which pre- or post-operative x-ray therapy should be employed. Each procedure plays a distinct role and they should not be regarded as alternative measures. The key to the position probably lies in a study of the pathological grading or degree of malignancy of the tumors comprising each operable group."

It is then shown from various authorities, including Pfahler and the Mayo Clinic, that it would be well to "formulate a treatment plan for the respective group of patients." We agree fully with his plan with this reservation—that it is impossible to be *sure* exactly the stage and group into which the patient falls—so we sometimes feel as we did when a boy hunting squirrels—we wanted to shoot

into every squirrel bed to be sure to get the squirrel if it were in the nest. We sometimes got the squirrel, we often lost a charge of shot.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

URETHROGRAMS IN URETHRAL STRICTURES

URETHROGRAPHY of the preferred type can be relied upon to supply data needed for the correct treatment of urethral stricture. Since 1910, when J. H. Cunningham, Jr., first reported on their use, urethrograms have been used for indirect visualization of the urethra. There have been differing opinions as to whether an oily, an opaque or a watery medium should be used, and Cunningham's methods have been improved by the use of modern x-ray equipment, but the principle remains.

Urethrography helps invaluably in anticipating difficulties and planning the best surgical approach. Prather¹ reports the production of excellent films using lipiodol or iodochloral, slightly warm. These substances, though expensive, have the advantage of not being irritating to the urethra or bladder

mucosa.

For satisfactory films, constant injection is needed during the time of x-ray exposure. Manual injection using a 20-30-c.c. glass syringe with rubber acorn-type urethral tip is recommended. For the study of urethral strictures both anterior-posterior and oblique positions should be used.

The diagnosis of urethral stricture by calibration of the urethra with instruments seldom gives all the necessary information. For example, when the stricture is located toward the deep bulbous or membranous urethra the method may fail to give the exact position of the stricture, it may fail to reveal the length of the strictured area or to demonstrate associated pathology or, finally, there may be failure to demonstrate the anatomical condition of the urethra proximal to the stricture.

Where the small lumen of the stricture does not prohibit insertion to the bladder, cystourethroscopy with an instrument of small calibre and fore-oblique vision may aid diagnosis. "In patients with urethral obstruction sufficient to prevent the passage of the urethroscope beyond the obstruction, we can inspect the distal aspects of the obstruction—a valuable maneuver in the differentiating of urethral tumor and stricture."

Precise location of a stricture, its length and approximate calibre, associated pathology and vis-

ualization of the urethra proximal to the area of obstruction should all be possible with urethrography. The type of treatment to be used may be more satisfactorily discussed with these data at hand.

In other disturbances of the urinary tract the channel proximal to the obstruction may be expected to show evidence of dilatation, however, in a group of 17 urethral strictures of small calibre "only four showed dilatation of the proximal urethra beyond that of normal calibre. It is true that some of these patients had multiple perineal sinuses which might act as a safety pressure valve, but excluding even these, only about 40 per cent had evidence of dilatation proximal to the obstruction. Therefore, if one anticipates finding a dilated urethra when approaching the urethra via external urethrotomy, any difficulty in finding it may well be due to the fact that the channel is not dilated."

Urethrography is an undoubted help in anticipating difficulties and in planning treatment (especially the easiest surgical approach), of urethral strictures.

OBSTETRICS

HENRY J. LANGSTON, M.D., Editor, Danville, Va.

PROGNOSTIC FACTORS IN CASES OF PSYCHOSES FOLLOWING PREGNANCY

EVERY PRACTITIONER of considerable obstetrical experience has been surprised and distressed by having mothers develop psychoses. There is little to be found which will guide him reliably in prognosis and treatment. An article¹ in a valued exchange's current issue affords such reliable guidance.

The psychoses in women which begin shortly following delivery of a child are designated as *post partum* psychoses. Those cases of mental illness with an onset within six weeks should be considered as *puerperal* psychoses.

The records of 220 post partum cases verified the now generally accepted viewpoint that in the majority of instances a diagnosis of either manicdepressive psychosis or schizophrenia is suitable. The remaining cases are usually diagnosed psychoneurosis or psychosis with mental deficiency. True toxic-confusional states are rare.

The family physician is asked by the anxious family about the outcome of the case, and his opinion will often decide whether the patient should enter a private hospital or a state institution, or whether she should be cared for in the home. The

^{1.} Urethrograms in Urethral Strictures: G.C. Prather, Jour. Urol., March, 1943.

I. Ethel A. Chapman, Elgin, in Ill. Med. Jl., May.

form of treatment and the problem of the care of the newborn will also depend much on the prognosis the physician and the psychiatrist will give.

Of 98 post partum cases treated at a state hospital, 58 per cent recovered and 11 per cent were markedly improved. The recovery rate for those patients diagnosed manic-depressive psychosis was 91 per cent in an average of 9.7 months, while the recovery rate for schizrophrenics was only 17.1 per cent in an average of 14 months.

The prognosis in the cases of post partum psychosis depends chiefly on the psychotic manifestations in the individual cases. Patients in whom manic-depressive features are conspicuous recover almost invariably, while patients in whom schizophrenic symptoms are predominant generally do not recover.

Patients developing manic-depressive psychosis, manic phase, following pregnancy recovered in a shorter period of time than those in whose cases pregnancy was not the contributing factor.

Toxic factors do not change the prognosis and high temperature can be observed in the beginning of schibrophrenic as well as of manic-depressive psychosis.

Environmental factors seem to play an essential part in the production of a psychosis, and changes in the environment or ability of the individual to adjust herself are necessary for a good prognosis.

Shock therapy does not alter essentially the recovery rate of post partum schizophrenic psychosis but may shorten periods of depression.

Psychotherapy is of some aid especially if applied ante-partum, and should be directed towards encouragement of the mother that she will be able to care for her child in spite of all adversities, and that life will be more satisfactory to her because of the child in the home. If the accomplishment of this aim seems unlikely other arrangements for the care of the child should be made early.

With adequate psychotherapy in schizophrenic cases it seems to be possible to keep the patient much longer in the home environment, and it is possible to delay the deteriorative effect of the schizophrenic process even when recovery cannot be expected.

TREATMENT OF BLEEDING IN THE FIRST AND THIRD TRIMESTERS OF PREGNANCY

BLEEDING DURING PREGNANCY requires prompt decision. Sound instruction on this point as given by Stander¹ is passed on to our readers.

In the first three months of pregnancy abortion

1. H. J. Stander, New York, in Amer. II. Obs. & Gynec., 44, 531, 1942.

and ectopic pregnancy, the common causes, require differentiation. Bleeding, infrequent in the second three-months period, is due to either a cause of bleeding in the first and third trimesters, or to hydatidiform mole. In the third period placenta previa, premature separation of the normally implanted placenta, and partial separation of a low-lying placenta are the causes and often hospitalization is required.

Management: Put to bed; history, with especial reference to previous interference, blood grouping, white count—and cross-matching, sedimentation rate, hemoglobin and cell volume, if the bleeding has been excessive. A general physical examination, but vaginal is deferred in obvious threatened or incomplete abortion, or infection. If the history suggests ectopic pregnancy, vaginal examination is carried out. In other cases a vaginal culture is taken. In case of threatened abortion the t., p., sedimentation rate and white count are observed for 24-48 hours unless excessive bleeding necessitates completion of the abortion.

Interruption of the pregnancy is performed on the basis of continued bleeding. In other patients the fetus is expelled soon after observation is begun, and in these, operative intervention is often necessary. The abortion was completed spontaneously in nearly one-third of the cases.

Conservative treatment is recommended in potential or actual infection of the uterine cavity. Vitamin E and perhaps progesterone are of value in certain cases of threatened abortion. A low B. M. R. must be corrected with proper thyroid therapy. Dilatation and curettage are performed on the basis of continued or excessive bleeding in incomplete or threatened abortion. The Ascheim-Zondek test is of value in these cases. Curettage is not performed in infected patients. Hemorrhage may necessitate evacuation of the uterus with the finger or ovum forceps, used with utmost care.

Extrauterine pregnancy urgently indicates laparotomy. Whole blood or plasma must be in readiness in all cases and given as indicated, usually during the laparotomy. In some transfusion should precede the operative procedure.

Cervical erosion, polyps, and carcinoma of the cervix, although infrequent causes of bleeding, must be ruled out by examination. In carcinoma of the cervix, early treatment must be carried out irrespective of the gestation.

Bleeding of the last third of pregnancy is due usually to placenta praevia or premature separation of the placenta. All these patients should be in hospital and a suitable donor or blood from a blood bank procured immediately. All except those in shock or with excessive bleeding to be observed

for several days. Treatment in placenta praevia is conservative, including the introduction of a bag in certain cases, except in central, or in partial, with a fairly closed, long, or rigid cervix. In this latter group cesarean section becomes the procedure of choice.

Premature separation of the normally implanted placenta requires cesarean section unless the cervix is partially dilated and early vaginal delivery may be expected, with hysterectomy only in those cases where great disintegration of the muscular wall of the uterus is present and the organ does not contract satisfactorily.

With the treatment as outlined the maternal mortality from placenta praevia was 0.75 per cent, from premature separation of the placenta 3.2 per cent

The vaginal pack or tamponade must not be used except to check bleeding sufficiently to allow transportation to the hospital; because of its inability adequately to control bleeding and the danger of infection, even under the best sterile precautions. Manual or instrumental dilatation of the cervix in patients with bleeding near term is to be strongly condemned, because of the inevitable cervical and at times lower-uterine lacerations resulting from such a procedure.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

DETERIORATION IN THE QUALITY OF RUBBER GLOVES

IN 1889 HALSTED, at Johns Hopkins Hospital, had his sterile nurse wear at operation rubber gloves made especially to protect her hands from the corroding effect of repeated immersion in bichloride of mercury solution. From this beginning it was incidentally learned that the use of sterile rubber gloves by the operating crew greatly lessened the incidence of wound infection with but little impairment of the surgeon's tactile sense. Now that the use of rubber gloves at operation has become universal in modern hospitals continued deterioration in the quality of the gloves obtainable is a matter of serious import both to the civilian population and to the armed forces.

That the quality of operating gloves has become progressively worse under war conditions is evident to anyone who has had to use them. There has been a loss of more than fifty per cent in elasticity, and the life of the gloves has been reduced by fifty per cent. They are easily torn and are readily punctured by sharp instruments. Hospitals have to buy

twice as many gloves for the same number of operations as before the war.

The poor quality of gloves now being furnished must be due to the fact that they are made either of previously used rubber that has been reconditioned or of crude rubber that has deteriorated from being kept too long in storage. The cause should be determined and the condition remedied, for rubber gloves of good quality are vitally necessary for the protection of patients who have to be operated upon. Manufacturers of hospital supplies should have priority allotment of fresh crude rubber for the manufacture of gloves.

One of the lasting benefits of the war may be the perfection of some form of synthetic rubber, from which gloves may be made that will be more resistant to the deleterious action of repeated sterilization in the autoclave and will be less affected by contact with grease and chemicals.

ORTHOPEDIC SURGERY

DISCUSSION ON PAINFUL BACK IN SOLDIERS AND IN INDUSTRIAL WORKERS

PAINFUL back brings us many of our patients, a great number of them with baffling problems.

A discussion of the subject by a Section of the Royal Society of Medicine of London brings out facts in diagnosis and treatment which we are encouraged to believe will make every reader more useful to this class of patients.

Mr. Robert Young*, introducing the subject, remarked that the majority of patients with backache have pain referred down the leg from time to time, and it is not possible to keep backache and sciatica (using the term in its widest sense of pain down the leg) in separate compartments. Of such patients the majority have lesions of the muscles, fasciae or ligaments. Only a certain proportion have lesions of the nerves or perineural structures. A few have lesions of the joints, still fewer lesions of the bones.

It is difficult to classify backache on a pathological or aetiological basis. The aetiology is so uncertain, and the exact pathology is, for the most part, still unknown, and has therefore to be guessed at. The same clinical lesions of muscles, fasciae or ligaments may be due to a number of different aetiological factors such as injury, postural strain, and inflammation, which are difficult to differentiate. The anatomical features are, however, less in

^{1.} Proc. Royal Society of Med. (Lond.), Mar.

[&]quot;Generally, in Great Britain, surgeons take the degree of Master in Surgery, therefore a Surgeon is not a "Doctor,"

doubt, and the classifications we have found most useful is one on an anatomical basis.

There are two main groups: Those patients with referred pain from the abdominal or pelvic viscera having a full and painless range of movement of the spine and hips; also those patients with various neurological diseases. In the second group are those with pain due to a local condition in the back: those in whom the pain arises in a) muscles, fasciae and ligaments (majority); b) nerves or perineural structures—perineuritis, neuritis; c) intervertebral or sacro-iliac joints, e. g. arthritis; d) bones—inflammatory, neoplastic or Paget's disease.

Mr. Young is definite as to differentiating between the muscle, fascial, and ligamentous lesions, which account for half the total in the Service patients and a third of the civilians. The high proportion of cases of neuritis in civilians is due to the fact that only the more serious or long-standing cases were sent to us.

Muscle, fascial, or ligamentous lesions include lumbago, sacro-iliac strain, lumbosacral strain and a large number of sciaticas. He does not use the term sacro-iliac strain for those cases with merely tenderness in the region of the posterior superior spine. Here the lesion is in the overlying muscles or fascia. Pain arising in the sacro-iliac joint is very uncommon except where radiographs show evidence of disease. The tender points of these lesions-the majority in the erector spinae or buttock muscles, some are in the interspinous ligaments-do not conform to any special pattern. One point of tenderness is frequently in the region of the gluteus medius muscle and down the outer side of the calf. As well as arising spontaneously it occurred in almost all his patients with fractures of the pelvis, the symptoms making their appearance soon after the patient resumed walking. A diagnosis of sacro-iliac arthritis was not infrequently made, but injection of novocain into the tender spot has, in all his cases of fracture of the pelvis, completely and permanently relieved the symptoms. The exact pathology of all the myofascial group is unknown. Subsequent to injury there may be muscle or ligamentous tears. Other lesions include postural strain and inflammatory or rheumatic foci. The term perineuritis is used where there is pain on stretching the nerve. To cases with additional neurological signs, e.g. diminished or absent ankle-jerk, muscular weakness and alteration of sensation, the term neuritis is applied. Some cases of neuritis are due to pressure, such as from prolapsed disc, and this may be true of some of the perineuritis cases. As in the myofascial group, a certain number are due to rheumatic or inflammatory foci, and then the lesion is in the perineural tissues.

Of the 45 classified as various the 15 unknown were characterized by limitation of movement of the spine, no local tenderness and a normal x-ray. They may have been lesions of the intervertebral joints or more likely lesions of the muscles or ligaments too deep to give local tenderness.

Eight cases were purely functional or hysterical with no organic basis. There were hysterical manifestations of varying degrees superimposed on an organic basis in many more, about 25 per cent.

The two cases of sacralized lumbar 5th transverse process have been queried because of uncertainty whether the symptoms could be ascribed to this or not. In six others the process was certainly not responsible for the symptoms.

In distinguishing between the three common types-muscle, fascial and ligamentous lesionson the one hand, and lesions of the nerve and its sheath on the other, one sign of fundamental importance is the head-and-knee test. The patient sits on a stool with his back and head straight. The affected leg is then gradually straightened by extending the knee until pain is felt. The leg is then bent (flexed at the knee) only just enough to relieve the pain. The head is then bent forward without moving the spine. This stretches the spinal cord and its coverings, and hence the sciatic nerve and its roots, and the erector spinae. If pain is now felt it will therefore be due to stretching one or other of these structures. The knee is then further flexed while keeping the head bent. If the pain is then relieved it must be due to stretching of the sciatic nerve, its roots or coverings. If the pain is still unrelieved by flexing the knee, it must be due to stretching of the erector spinae or its fascia.

Without the head-and-knee test it was found impossible to distinugish between the myofascial lesions of the buttock and lower part of the erector spinae, and lesions of the perineural structures. The straight-leg-raise test is of little value because it is positive in all myofascial lesions of the buttock. It will be positive in lesions of the lower part of the erector spinae, since at a certain point, depending on the length of the hamstrings, the pelvis will be rotated and the lumbar spine flattened. Raising the leg to the point at which pain is felt and then dorsiflexing the foot is also of no help, since this is painful in a normal individual. The head-and-knee test is not quite 100 per cent effective, though it is very nearly so. In a few few patients with an associated muscle lesion in addition to the lesion of the perineural structure, it

has been possible to abolish the muscular component by local injection of novocain, leaving a true, positive head-and-knee sign.

Complete rigidity of the spine is usual in arthritis of the intervertebral joints and in spondylitis. Inflammatory and neoplastic disease of the bones can only be excluded by x-ray examination.

The tests we rely on for pain arising in the sacro-iliac joint are compressing, separating and rotating the ilia on the sacrum. This does not involve stretching or compressing any muscles, or putting strain on other joints. In early cases of spondylitis before ankylosis of the joints has taken place, this test has been always positive in our experience so far. We have also found it positive in other patients with arthritis in the sacro-iliac joint.

Local tenderness is present in all the myofascial lesions. That along the sciatic nerve in myofascial lesions may be due to tenderness of the muscles

deep to the area of referred pain.

More accurate localization of the myofascial lesions can be obtained by a careful consideration of the particular movements that are limited and the resisted movements that are painful. The lesion is thus localized to the particular muscle and the muscle is then palpated for tenderness, and if injection of this area with novocain relieves the symptoms the diagnosis is confirmed. If superficial tenderness is not abolished, and still more if tenderness is increased, then the symptoms must be of hysterical origin.

The history is of little value in the diagnosis of the type of lesion, though it is of value with regard to the question of injury and septic foci. Search for a septic focus is always important, particularly when the blood sedimentation rate is raised. The common sites of sepsis are the nose and throat, teeth, tonsils, and particularly grossly septic antra. In none of these patients could the lesions be attributed to the large gut, and in only one to the prostate. A raise in the blood sedimentation rate is an indication to search for a focus of infection. including x-ray examination of the chest. We have had two patients with silent carcinoma of the lung and one with a silent tuberculous cavity of the lung, in whom x-ray examination was undertaken because the B. S. R. was raised.

Wassermann reaction and gonococcal complement-fixation test are done as a routine in all our patients, but in only one was the latter test of any significance.

Treatment: Patients with acute myofascial lesions are given a period of rest in bed, during which we give an injection of novocain into the tender spot, repeated in three to four days' time. Heat and massage are also given. As soon as the acute symptoms have subsided the patients are put on graduated physical treatment, and when fit

they have a period of full gymnastic exercise before returning to their uits, or to work.

Patients with *chronic myofascial lesions* are treated in a similar manner, without the rest in bed. We employ manipulation under anesthetic only in those patients who after an initial improvement fail to make further progress.

Patients with perineuritis are treated in the same general way as the myofascial group except that in place of local injection we give 100-c.c. epidural injections of 1% novocain. We do this both in the acute and the chronic stage, and repeat if benefit results. Manipulation under anaesthetic to increase the straight-leg raise is carried out only if there is no pain at rest. Patients with spontaneous pain have an active inflammatory lesion which will be aggravated by manipulation, but those with limited straightleg raise and pain on movement only are, we believe, suffering from the results of past inflammation, possibly adhesions, which can be broken down by manipulation.

Patients with neuritis are treated with rest in a plaster bed, and epidural injections. If they are considered by the neurologist to have prolapsed disc, service patients with a long history are boarded out of the Army, after their immediate symptoms are relieved. Those with a short history, if improved by treatment, are down-graded for a period of three months after which their case is reviewed. In civilians, if the symptoms warrant it, we proceed with investigations for prolapsed disc and remove it if found. Otherwise they are treated with rest, physical treatment and a supporting belt. and allowed to return to light work. They are kept under observation. Laminectomy has been carried out on 15 of the 103 patients with symptoms referable to the sciatic nerve or its roots. Eleven patients were immediately cured and have remained so since, three were cured at the end of three months, and one was not improved. In nine cases prolapsed discs were removed; in two others the symptoms were thought to be due to thickened sub-flavum ligament; these were both immediately cured by the operation: and in four cases nothing abnormal was found.

Results of epidural novocain injections in 54 patients—In a very few cases (6 of 54) the results were dramatic—all signs and symptoms were completely abolished, and the patients either went back to duty or back to work after one or two weeks' graduated physical training. Twenty-seven of the 54 were improved immediately and this improvement continued over a period of time. In nine symptoms and signs were either completely relieved or improved, but recurred, usually within 24 hours, and in 12 the injection had no effect.

Dr. James B. Brailsford: Radiographs of the majority of patients with painful backs show little

or no departure from the normal. A negative radiological report may mean a) that there are no changes in the bones or joints sufficiently developed at the time of the radiographs to show a change in the normal structure, b) that the examination has not been efficiently done or c) that the radiographs have not been accurately interpreted. In one case sent for x-ray of pelvis, then spine, then skull; extensive biological and bacteriological investigations had been made on his spinal fluid, blood, sinuses, etc., before a radiograph of the femur showed that the cause of the pain in the thigh was an osteomyelitis of the femoral shaft.

Several complaints of pain in the back led to treatment as fractures, because the radiographs showed what was mistakenly interpreted as a crush fracture of the 4th dorsal body. The error was brought about by the neck of the scapula and glenoid being superimposed over the 4th dorsal body.

In case the transverse processes of the 5th lumbar vertebra develop abnormal characters and come to articulate with the ilium and sacrum pain results and the radiographic appearance suggests the cause to be the development of arthritis in the abnormal joint. Unusual expansion of a transverse process, the cancellous structure of which had been wholly replaced by coarse bony trabeculations, has been seen in cases of osteoclastoma. Arthritic changes in the costotransverse articulations, indicated by pointing and lipping of the articular margins and sclerosis of the approximated bony surfaces, are the only radiographic indications in some cases of painful back.

Hardly a person gets to be fifteen years old without learning that he can claim to be down in his back and it will be next to impossible to refute his claim. Here is evidence and authoritative opinion which will make the task easier. Certain tests described have proved reliable beyond the usual recognition, and the confidence expressed in the diagnostic and curative usefulness of novocain injections warrants wider adoption of this measure.

One may be sure that those who read these pages attentively will use less adhesive plaster and plaster of Paris—and afford relief to a greater proportion of their back sufferers.

CHOICE OF ANESTHETIC IN WAR SITUATIONS (Col. B. C. Leech, in Proc. Royal Soc. of Med. (Lond.), Mar.)

From our experiences with the Dieppe casualties, we may say that in handling war casualties intravenous pentothalsodium can (and likely will) take care of upwards of 50 per cent of anesthetic demands.

In the hands of experienced specialists we feel that cyclopropane (often embracing endotracheal technique) is the anesthetic of first choice for most surgery of the head, neck, chest and abdomen; wherever profound muscular relaxation is needed; and when dealing with patients who are in shock. Spinal analgesia for emergency surgery does not seem to be as useful as we expected. In cases where shock (perhaps latent shock) might be a factor, its use may become limited to lower-extremity surgery. In other words, paralyzing the adrenals by high spinal block does not seem justifiable in these cases.

Ether still remains the safest agent in relatively unskilled hands, and hence it will likely always serve a very important function.

Local tissue infiltration, done by the surgeon, may come to be used in many cases of minor surgery of the soft tissues, especially when the services of an anesthetist are not readily available.

DERMATOLOGY

J. LAMAR CALLOWAY, M.D., Editor, Durham, N. C.

THE PRESENT STATUS OF SHORT-COURSE ANTISYPHILITIC THERAPY

DURING the past two or three years there has been a tremendous swing from the standard antisyphilitic therapy courses as outlined by the Clinical Coöperative Group and others to the short-course treatment procedures. These procedures include the one-day fever chemotherapy treatment, the five-day massive intravenous chemotherapy treatment, and many other short-course variations, the most promising of which at the moment appears to be the treatment regimen advocated by Eagle.

It should be emphasized to all physicians and patients from the outset that these regimens are purely experimental and should be conducted only by large clinics with adequate personnel and clinical and laboratory facilities for carrying on investigations and follow-up of all patients treated.

Many of these experimental procedures are not only dangerous but are as yet completely unevaluated. Out of the various systems that are being tried there is certainly going to come a short-course treatment of syphilis which differs greatly from the present "18 month-70 injection" regimen which is standard treatment at present; but only after some ten years of observation can it be evaluated. These patients must be examined ten years from now to see if they have developed cardiovascular syphilis or central-nervous-system syphilis in greater proportion than patients treated by the old established method.

It is admitted at this time that the present treatment procedures are somewhat a result of everyone falling in line behind the original investigators, giving treatment once weekly, when it has been known by all that most of the arsenical was excreted within four or five days and therefore each week we have actually invited relapse. Considering the arsenical drugs to be one hundred per cent efficient drugs, we have consistently alternated bismuth and mercury courses which are only about

35% as efficient spirocheticides as the arsenicals; and although many theories have been advanced as to why heavy metals of the bismuth-mercury group should be used in alternation, there is no proof that they build tissue resistance, and it brings up the question as to why we should ever use a 35% efficient drug when we have a 100% efficient drug available. The theory of drug resistance being lessened by alternating courses is plausible but not established.

It is hoped that through various investigations now under way a more intelligent approach to the treatment of syphilis will emerge; but for the conservative physician, until these procedures are evaluated, adherence to the accepted, standardized form of antiluetic therapy is advisable.

This discussion is not designed in any way to discourage investigation in clinics and laboratories that are equipped to evaluate newer methods of treatment. It is meant only to discourage the indiscriminate use of short-course therapy by the physician who treats only a few cases of syphilis. I am confident that we shall soon have a simplified short-course treatment regimen which will be more satisfactory to patient and physician and will enable us to complete the prescribed therapy on all patients since the patient will not have to face such a prolonged course of therapy.

VITAMIN B6 AND ACNE

(Jour. Invest. Dermatology)

Seventy-two students with acne were divided into two groups: 37 received pyridoxine in doses of 25 to 250 milligrams a day; 35 controls received inert tablets. The ages varied from 16 to 29 years; the acne had been present from 1 to 10 years. In many cases, all forms of local and systemic treatment had been tried with indifferent success. During the experiment, all the subjects were allowed to continue any local therapy they might have been using at the time the study was begun, but no new local treatment was permitted. Of the pyridoxine-treated group, 23 per cent showed complete clearing of the acne, 51 per cent showed definite improvement, and the remainder no change in condition. Among the controls, none showed any clearing of acne, 20 per cent showed some improvement, and the remainder either remained unchanged or discontinued the treatment. Three of the controls who had showed no improvement were subsequently given tablets of pyridoxine without being informed of the substitution. Acne completely cleared in two of these, and this improvement persisted as long as pyridoxine was given. The duration of improvement is not stated, presumably because sufficient time had not elapsed before the report was written.

Though these results would appear at first glance to indicate that certain cases of adolescent acne might have a nutritional basis, the authors are inclined to a different view. None of the subjects studied had any sign of B complex deficiency, nor was there present any gastrointestinal disorder which might lead to insufficient absorption of dietary vitamins. The inference is drawn that the acne is probably caused primarily by a defect in the metabolism of lipoid substances—it may be that this defect is brought about in some way by a hormonal imbalance especially likely to occur in people of adolescent age. It is suggested

that pyridoxine may be concerned with the utilization of unsaturated fatty acids, and that this vitamin may function through its corrective action on a deranged fatty acid or lipoid metabolism.

PEDIATRICS

DISCUSSION ON WATER METABOLISM IN SICK AND HEALTHY INFANTS

It may well be doubted that any one of us has ever seen the subject of water metabolism in infants so well set forth. Or so simply.

The conclusions are based on sound theory and abundant experience adequately controlled. The advice given will serve well to tell us what to do, when to do it, and not to do too little or too much of it.¹

Dr. Winifred F. Young, making the major presentation of this subject, first recalled to mind certain pertinent facts of physiology. A full-term baby contains 75-80 per cent of water, an adult only 60-65 per cent. Furthermore, 65 per cent of the body water in infants is extracellular, only 28 per cent in adults. A baby requires much more fluid per kg. of body-weight than an adult and even on a basis of surface area the fluid intake ought to be higher, even more so in premature infants. This is not because the losses by the skin and lungs are abnormally high; these are lower per square metre of surface area in new-born infants than in adults. The urine volumes, however, should be considerably larger. This fact is to be correlated with the fact that the infant's kidney is a relatively ineffective organ particularly at low urine flow. Premature infants are very liable to oedema and their low mineral clearances are an obvious explanation. The glomerular filtration rates also have been measured by estimating the insulin states of the infant's hydration. For these reasons any infant short of water is likely to have renal failure, and one who is fed on cow's milk suffers sooner than a breast-fed baby because his food contains more protein and salt.

An infant needs extra water whenever the output by the skin, lungs or bowel is increased, because his urine volumes must not be allowed to fall. Water should be given if a baby is feverish, but salt must be given as well if he is suffering from diarrhoea and vomiting. The objects of treatment are to restore the volume and the normal composition of the body fluids. The only electrolyte needed is sodium chloride for the others are supplied by the processes of metabolism. Since the gastro-intestinal secretions may be regarded as isotonic, the amount of salt lost in them corresponds

^{1.} Proc. Royal Society of Med. (Lond.), Mar.

to the amount that would have been contained in an equivalent volume of 0.9 per cent NaCl. A hypotonic solution of salt should, however, always be given to an infant with gastro-enteritis unless he is taking water by mouth; because water, but not salt, is excreted by the skin and lungs. If fluids are to be given by the intravenous route and 0.9 per cent NaCl and 5 per cent glucose solution are available for the infusion, the proportion of each in the volume of fluid to be given can be varied according to the needs of the patient.

If the dehydration has been mild we have given, without waste of time, a solution of glucose and salt up to three, if severe, up to six or seven, per cent of the body-weight. The solution has generally been a mixture of 0.9 per cent NaCl and 5 per cent glucose in equal parts. This was followed by a maintenance infusion of one part of 0.9 per cent NaCl to four parts of 5 per cent glucose to supply the normal daily requirement (2-2½ oz. per lb. body-weight). If the diarrhoea has been very profuse, it has sometimes been necessary to give more of the 0.9 per cent solution of NaCl.

In order to enable the body to regulate the pattern of its mineral composition, enough water must be given to establish a free flow of urine and both the dehydration and the oliguria should be relieved a few hours. It is sometimes possible to do this in an infant who is not vomiting by giving him fluids by mouth, but his salt requirements needs to be assessed just as carefully as if fluids are being given parenterally. The rectal route is useful only as a method of supplementing the oral intake, if a patient is vomiting but has no diarrhoea. A larger volume of fluid can be given by the subcutaneous route, but it also should be used only as a supplement to oral feeding because the solution to be given is isotonic (0.9%) NaCl. Glucose solutions should not be used: there is too much danger of abscess formation. The intravenous route is frequently the only one by which the depleted body fluids can be restored sufficiently quickly. Whichever route is chosen accurate charting of the output is essential in order to estimate the day-to-day requirements. Daily weighing of the patient is very helpful. The change in weight is a much more sensitive indication of the water balance than estimations of the serum chemistry. There are dangers in giving too much salt and in giving too little. If more is given than is excreted either the concentration in the body fluids increases or oedema fluid is formed; both prejudice recovery. It is not possible to relieve salt-deficiency dehydration without giving enough salt, and if large volumes of glucose solution are given, there is a risk of water poisonDr. Avery Jones: Many sick infants receive an amount of salt the equivalent of $3\frac{1}{2}$ oz. of salt for an adult. The infant's kidney is unable to deal with such amounts and therefore the infants tended to become oedematous with salt-bound water and yet had no water available for the normal losses from skin and lungs.

If a deficiency of vitamin B existed the infants could develop a condition equivalent to an acute beriberi. Tibial marrow transfusions had proved satisfactory in five out of six infants he had recently treated.

Dr. Richard Dobbs: As to dehydration, shock and collapse in infants suffering from acute gastroenteritis, the important questions are: 1) what is the most useful, or, rather, the least dangerous fluid to use, and 2) what is the most valuable route? From experience it seems that the oral route may be unsatisfactory because of vomiting or because the fluid may not be absorbed, and that the intravenous route has its dangers. The subcutaneous route is the safest, and by it saline or any other electrolytic solution is satisfactorily absorbed. Though it is probably the most satisfactory for experimental purposes, the intravenous route is dangerous unless more care and constant attention are available from both nursing and medical staff than is usually the case. Vascular and right-heart failure, and cerebral pulmonary oedema follow on too much or wrong fluid very much more easily with intravenous than with other routes of administration.

PEDIATRIC ANTIQUES ON TOUR

As applied to the many feeding features of pediatrics, the Mead Johnson Collection of Pediatric Antiques bears eloquent witness to the great strides made in pediatrics during the past three or four decades.

The baby's cereal of a century ago was simply stale bread lightly boiled in water, wine or beer. Butter or sugar might be added but the use of milk was regarded as dangerous. Milk might "bring on the watery gripes," or the infant might imbibe "with the milk the evil passions and frisky habits of the animal supplying the milk."

From a personal hobby enjoyed by the late E. Mead Johnson, Jr., the Collection of Pediatric Antiques, illustrated in the pages of a catalogue just issued, has evolved into one depicting infants' feeding vessels from the Greece of twenty-five centuries ago to time within our own memory.

By request, the collection now goes on an annual pilgrimage to colleges, hospitals, museums, libraries and other institutions of learning. Arrangements may be made for "stop-overs" upon application to the curator. Mead Johnson & Company, Evansville, Indiana, U. S. A.

Persons who digest and assimilate their food normally and whose metabolic processes are normal, can obtain all of the *B-vitamins* they need if they select their food wisely and if the food is properly prepared and served.—M Koehne, in *Ohio Med. Jl.*, Mar.

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

THE HARVEST OF HASTE

THE PRESS is beginning to speak of the large number of nervous and mental patients amongst the wounded and the sick that are being returned to this country from the foreign fields of war for admission to the newly created federal hospitals. Such nervous and mental patients have come to be called neuropsychiatric casualties. It would be a mistake to assume that the condition is always caused by participation in fighting. The shock of battle may, to be sure, evoke it, but many times oftener, no doubt, the condition develops long before the new soldier is anywhere near the enemy. Whatever the manifestations of the neuropsychiatric catastrophe may be, and they vary enormously, fear is probably the principal underlying causative factor.

Fear is the cause, almost wholly so, of many morbid conditons often spoken of glibly as nervous or mental ailments. I doubt not at all that continuing fear may be the cause of many so-called physical disorders. Yet the reference to fear as the chief causative agency in disease-emotional, mental, or physical-should be made with understanding, both of the individual who is experiencing the fear and of the nature of the fear. There would seem to be no doubt that fear disturbs many of the physical functions and that it may even cause changes in anatomic structures. The manifestations of powerful fear are not easily repressed, but a determined, resourceful individual may be able to conceal his fear from others. But he cannot prevent his own structures, material and immaterial, from experiencing the impact of the fear.

One of the purposes of all military training must be to accustom the recruit to the effect upon himself of personal danger—to enable him to deal with personal fear. The recruit may be able to become unafraid of fear. He may be enabled by training and by self-discipline to deal with the imminent danger of death on the field of battle as the normal individual responds to a violent thunder-storm—with respect for lightning as a lethal agency, but somewhat fatalistically.

Fear is one of the normal human emotions. The individual, in peace or in war, should not be surprised nor abashed by experiencing it. But it is possible to acquire some knowledge of fear—of its manifestations and of its protective purposes. The so-called lower animals are not embarrassed by their fear. They yield to it and probably instinctively understand its purpose as a safety device. But man is humiliated by his fear. He is much

ashamed to confess himself to be afraid, yet he can neither frankly say that he is in the grip of fear nor wholly repress his fear. In consequence of such dualized incapacity we mortals continue to be hypocritical about personal fear—to deny it lingually, but to manifest it with all other organs of the body. In such a sorry predicament does so-called civilization place us and hold us. What wreckages our attempts at civilization produce!

Those young men, strong as Hercules though they may be in muscle and in sinew, should not be mustered into the armed service if they have within them the potentialities of neuropsychiatric casualties. If they are to go to pieces in training-camp, far from the enemy; or if they are to crumple up on the march or under fire, they will become medical charges instead of valiant soldiers. Returned to the home-country, they become probably permanent invalids, unhappy, subsidized wards of their government to which they were unable in the hour of danger to make any valid contribution.

Intelligent persons, who possess even elementary appreciation of the situation, do not blame the neuropsychiatric casualties. Under the circumstances, they could not behave otherwise. Such individuals are allergic to warfare. They cannot live compatibly with armed conflict.

Yet if it were possible to assign them, one by one, to a patient, skillful teacher, intent upon enabling them eventually to do the impossible, they might be evolved into fighting men. But in the hurried assembly of an army, there can be no tender consideration for the inadequate individual. Warfare is resolute, ruthless and relestless, violent and brutal, and the soldier who cannot participate in the destruction and the risk of death is likely to rebel against it all by manifest inadequacy.

The Induction Centers through which the recruits pass into the armed forces are supplied with specialists whose psychiatric prescience is busily and warily engaged in ceaseless efforts to pick out the unfit, so that they may be returned to civilian activity, where their usefulness can be continued. But the psychiatrists are without family and personal histories of the inductees, and within a period of only two or three minutes for each recruit the psychiatrist cannot make an examination worthy of respect. I remain of the opinion that it had been better if no psychiatric examinations of inducted men had been made if they could not have been properly carried out. A hurried, glancing, unphilosophic, superficial study of a human being, in time of peace and in time of war, is discreditable alike to the government that orders it and to the physician who makes it. The effort to discover truth should always be deliberate, dignified and unattended by unseemly haste. Is it any wonder

that psychiatry is so poorly esteemed? Is the populace to be encouraged by their government to believe that a psychiatrist should be able to tell even at a glance whether the individual is to remain forever fixed in Socratean sanity or whether he may suddenly become wildly insane?

The selective service recruit—drafted man for candor and brevity—should be kept in a probationary state in military camp until he can be thoroughly examined, psychiatrically and otherwise. There is probably no valid reason why that cannot be done.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M. D., Editor, Greenville, S. C.

TRENDS AND PARTICULARS IN GASTRIC SURGERY

Most of our patients use "ulcerated stomach" to cover gastric and duodenal ulcers, and we, ourselves, do not differentiate between the two conditions as carefully and as constantly as we should.

A Pacific coast writer¹ makes some clear and important points which may well be considered by all of us:

Probably at least 80% of cases of duodenal ulcer, yield to carefully controlled dietetic and medical management. Operative treatment should be limited to those cases in which these attempts have failed. We recognize failures by repeated recurrences, hemorrhage, perforation or evidence of organic stenosis.

There is now a very wise trend toward considering gastric ulcer a surgical rather than a medical problem, 10% of which, as diagnosed radiologically, prove at operation to be carcinoma. Many of these do not have an achlorhydria, and some do not have a low acid. Some of them apparently decrease in size under medical treatment, and improve clinically, and yet at operation after a recurrence of symptoms prove to be advanced carcinomas. Jejunal ulcer, after partial gastric resection for gastric ulcer, is an extreme rarity.

With such a good outlook in cases of gastric ulcer operated upon early, and such a poor outlook in those cases which prove to be unrecognized carcinoma, and on whom operation is thus delayed, this trend toward much earlier operation is sound.

Benign lesions of the stomach are encountered more commonly at necropsy than clinically or operatively. Leiomyomas and polyps account for the largest number. The carcinoma of the stomach with the most favorable outlook is situated near the pyloric end, where it causes obstruction early, and thus invites the attention of the patient to his stomach symptoms before the growth has extended widely.

A CASE OF RECOVERY FROM TETANUS OF EXTREMELY RAPID ONSET IN A FIVE-YEAR-OLD CHILD

(E. T. Hackman, in R. I. Med. P., May)

Five days before admission this young boy received a splinter in his buttock while sliding on a piece of timber in a farmyard. The parents applied a salve, no splinters being seen in the wound. The boy did not complain much until the evening of admission, then did not eat his supper and said his buttock was sore. Shortly afterwards, he stiffened and his mother thought he was going to have a convulsion. The local physician referred the boy to the hospital.

His t. was 98.6, p. 84, r. 28, flushed, not appearing acutely ill, but talking through an almost closed mouth, could not open jaws more than a half-inch; neck rigid, no opisthotonus present. On the right buttock there was an oval indurated, red area, 3x8 cm., with a splinter palpable just beneath the skin. Both legs flexed at the knees. An attempt to extend the legs resulted in rigid extension of both lower legs.

Taken to the operating room, abscessed area surrounding the splinter in the buttock was excised under light ether anesthesia, the wound left open. Specimens taken from the wound sent for culture. Test for sensitivity to horse serum were negative and 13,000 units of tetanus antitoxin was given intravenously. A lumber puncture was performed, clear fluid found and presure 245 mm. of water. Ten c.c. of fluid was withdrawn and replaced with 8 c.c. or 15,000 units of tetanus antitoxin.

In 24 hours t. had reached 105, p. and r. correspondingly increased. There was marked trismus, the teeth being almost locked. Opisthotonus, but no convulsive seizures. Bouts of tetanic contractures of the skeletal musculature were precipitated by the slightest stimulation. Sodium luminal and sodium amytal were administered in 2½-4 gr. doses at frequent intervals.

Another lumbar puncture was done during the first day, fluid pressure of 210 mm. of water. After removing some of the fluid and reducing the pressure, the child seemeh less opisthotonic. Believing this procedure to be beneficial we performed repeated lumbar punctures during the first three days. Each time under increased pressure until the final tap.

Additional antitoxin was given each day up until the third day, a total of 210,000 units. Except for 13,000 units given intrathecally on admission and 20,000 units injected about the site of the wound, all intravenous by continuous drip with saline solution.

The t. high on the second day, sodium sulfadiazine was given intravenously (1 grain per lb. body weight) for two days; discontinued, there being no response and the prognosis seemed hopeless.

On the third day, the wound on the buttock was reëxplored under local anesthesia. After wider exposure, another splinter which apparently had been broken off the original and had become angulated and imbedded deeper, was removed. Once again the specimen was sent to the laboratory for cultures. 20,000 units of antitoxin was injected around the site of the wound which was left open.

^{1.} E. W. Rockey, Portland, Ore., in Northwest Med., May.

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Pediatrics

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

HOME TREATMENT OF PNEUMONIA HAS ITS ADVANTAGES

Today it is little less than high treason to question the truth of the absurd statement on the lips of every medical neophyte that "the place for every patient is in a hospital. This journal has consistently and persistently held that the place for the great majority of patients is in their own homes.

It is gratifying to learn that one of the most eminent physicians finds the home a satisfactory place in which to treat so serious a disease as pneumonia, indeed with better results in more than 90 per cent of a group of 132 cases.

The report¹ of Dr. Joseph H. Pratt and his associates cannot be dismissed with a wave of the hand,

Of course it is more convenient to the doctor to have all his patients in hospital; but that does not mean that it is more comfortable, more economical or more life-saving to the patients.

And a study of reports of deaths of doctors will reveal the fact that, except for those who die *soon* after major surgical operations or as the result of automobile and other accidents—before they have time to get home—most doctors die in their own beds.

With the introduction of the sulfonamides, it seems reasonable to believe that many patients with pneumonia could be successfully treated in their own homes. As soon as the diagnosis of pneumonia is confirmed treatment is begun at once. Sulfathiazole is chosen because of its effectiveness and slight toxicity. The dosage in adults in 4 Gm. (60 grains) as an initial dose, followed by 1 Gm. every four hours, day and night, until the temperature is normal for 72 hours. In some cases this is reduced to 1 Gm. every six hours during the afebrile stage, after which the drug is discontinued. In children, the initial dose is 1 grain per pound of body weight, following this, a daily dose of 1 grain per pound daily, divided into six equal parts given every four hours, day and night, until the temperature is normal for 36 hours, when the drug is discontinued.

Three measured quarts of fluid are given daily to adults and the output is followed. If the urine falls below 1500 c.c. in 24 hours the cause is investigated and additional fluid given. Recommended fluids are coffee, tea and coca-cola, fruit juices, broths, soups and bouillon. In children, a simple mixture of three tablespoonsful of carbohydrate

^{1.} Jos. H. Pratt, et al, Boston, in New Eng. Jl. of Med., May 21, 1942.

and one teaspoonful of salt in 1 pint of water is used to give five per cent glucose in saline.

After careful consideration it was decided not to determine the blood sulfathiazole levels, and experience shows that it is not necessary.

Supportive treatment consists mainly of highcalorie diets, sedation for chest pain, nursing care and, not the least important, the tender ministrations of the patient's own family.

The average duration of treatment in the home was less than that in patients treated at the hospital.

The physician usually gave the initial large dose before leaving the patient. The average duration of treatment—not including fatal and hospitalized cases—was 4 days for the adults and 3.6 days for the children.

Of the entire group of 132 patients only 11 had to be hospitalized. One patient developed empyema and in two cases there was evidence of serous pleurisy. Five fatalities occurred, i.e., a mortality of 3.8 per cent. Two of these were chronic alcoholics and three patients, 83, 79 and 77 years old, respectively, were suffering from chronic heart failure.

The response of infants and children to treatment in the home was especially satisfactory. Most parents are very coöperative in following directions, and the supportive measures and general care were adequately administered. The absence of the psychic trauma of removal to unfamiliar surroundings was believed to be a positive factor in the success of home treatment. Convalescence was a more pleasant period when the patient was surrounded by familiar faces and toys. There were no difficult problems in child management peculiar to home treatment of pneumonia.

RECENT INCREASE IN PNEUMONIA MORTALITY

The death rate from pneumonia for the winter just past shows a considerable increase over the tobe-expected seasonal rise. On the face of it, this is disquieting. We have been much pleased with the results of treating this disease—perhaps it would be wiser, certainly it would be more accurate, to say this group of diseases—by the sulfonamides. The possibility comes to mind that we may have trusted too much in these marvelous new chemicals.

Carefully compiled statistics¹ covering cases in number sufficient to make them noteworthy show as early as last September a moderate increase in pneumonia deaths over the preceding year, and a gradual worsening until January, for which month the rate was 40 per cent higher than for the cor-

1. Statistical Bulletin, Metropolitan Life Ins. Co.

responding month of 1942. By March of this year the excess had fallen to 14 per cent.

This report goes on:

The rise in pneumonia mortality will be noted with surprise by many persons who for the past few years have heard so much about the striking decline in pneumonia mortality following the use of the sulfa drugs in the treatment of the disease. This success was due largely to the effectiveness of the drugs against the pneumococcus, the infecting organism in most cases of pneumonia. During the past season, however, a large proportion of the pneumonia cases have not been of pneumococcal origin. These have been variously called "virus pneumonia," "viral pneumonia," or "atypical pneumonia of unknown etiology." While the causative agent has probably been identified, yet no specific treatment against it is available; it does not respond to sulfa drug medication.

A recent study of fatal cases of virus pneumonia among these policyholders shows that large proportion of the deaths among younger persons. Of the 150 deaths recorded in the company's experience since last November, 36 per cent were between ages 15 and 44 years, as compared with only 18 per cent of pneumonia deaths in a normal year. Few of these cases occurred in the South or the West.

Virus pneumonias apparently became more common about three years ago, much more so a year ago. Last fall the number of cases in the Army camps began to rise very rapidly, reaching a maximum early in 1943. Since mid-January there has been an irregular decline, but in early March the morbidity rate was as high as in mid-November or early December.

Astonishingly, it is said that 40 to 50 per cent of the pneumonias among soldiers are of the atypical variety, and such cases are largely, if not wholly, responsible for the increased prevalence of pneumonia, which for several months has been two or more times that of the preceding year. However, mortality from the disease has been low in the Army.

In the civilian population only a small fraction of the cases have ever been reported, and the few reports generally do not include a statement of the organism causing the disease. In upper New York State—one of the few large areas calling for such information—virus pneumonias have accounted for one-eighth of the recent cases reported. New York City's experience was that the peak of cases occurred in the four-week period ending January 23rd, while that for deaths came in the four weeks ending March 20th. In early April pneumonia mortality was still high. In some defense areas, increases in pneumonia have been sharp, more so

in Portland, Oregon, where in February more than three times as many cases were reported in 1943

as in the preceding year.

The fears of those who recall the devastating pandemic of influenza-pneumonia toward the close of World War I should be allayed, we are told, by consideration of the fact that virus pneumonia is different, clinically and in other essential respects, from influenza generally, and appears also to be distinct from the pneumonia which complicated influenza during the pandemic. Also throughout the first quarter of 1943 the death rate from pneumonia has averaged only one-fifth higher than a year ago, and has been lower than the correspond-

The pneumonia death rate so far this year is as much as 35 per cent lower than in the first quarter

ing period in all the years preceding 1941.

of 1938 and 1939.

The situation should not be regarded with complacency. War conditions favor outbreaks of respiratory disease, both among civilians and the military forces. Those doing hard, manual labor or putting in long hours of overtime should be encouraged to get as much rest as possible in their free time. Every effort must be made to maintain good nutrition, which is entirely feasible within the limits of rationing. Wide publicity should be igven to the few simple rules for preventing and caring for colds.

We can still put our faith in proper dosages of the sulfa drugs for the care of ordinary pneumonias.

RECOGNITION AND TREATMENT OF SURGICAL SHOCK

An article¹ helpful in clarification of a muddled and important subject is abstracted as to essentials:

Clinical traumatic shock is a circulatory defificiency, neither cardiac nor vasomotor in origin, and characterized by 1) decrease in blood volume; 2) reduced cardiac output, and 3) hemoconcentration.

Its pathogenesis is still the subject of much controversy. The theories receiving consideration at present are: 1) the nervous theory, which has not been substantiated; 2) the toxic theory, and 3) capillary paralysis and permeability causing local loss of fluid into the tissues.

Primary shock develops immediately after injury, has a nervous basis, and pain and psychic factors play a role through their effect upon the vascular system.

Secondary, surgical, wound, or traumatic shock is that state of general collapse which follows two, three or four hours after severe tissue injury. Surgical shock may be produced by many conditions, but extremely painful trauma, severe crushing injuries and hemorrhage are the most frequent causes.

Loss of whole blood, either outside the body or within the body cavities, is the familiar "red" hemorrhage. "White" hemorrhage, seen in patients suffering from shock produced by severe burns, is a leakage of plasma through the capillary bed into the soft tissue and in such conditions it is frequently said that the patient bled to death into his own tissues. Leakage of plasma from the blood produces hemoconcentration, decreased blood volume, reduced cardiac output, and finally tissue anoxia; which, if compensated, will give rise to symptoms of shock eventually leading to death, unless these processes are reversed by appropriate methods of treatment.

A patient suffering from surgical shock lies perfectly still and pays no attention to what is going on around him. Although plunged into mental stupor, he is quite conscious and answers questions slowly and painfully, but correctly. The temperature is subnormal; the respirations are sighing and shallow; the pulse is feeble and irregular, the blood pressure is low—in severe cases going down to 60—with ashen pallor and cold, sweating skin. The finger tips and lobes of the ears are cyanotic, the eyes heavy, lusterless and deeply sunken in their sockets.

The failure to distinguish between shock and the effects of hemorrhage has been the source of much confusion. Both conditions are produced by the loss of large quantities of fluid—either whole blood or blood plasma. Several of the clinical signs are identical in the two conditions—lowered basal metabolism, increased respiratory rate, thirst and declining blood pressure.

"In shock ability to absorb fluid from the tissues is impaired. Vomiting and diarrhea are frequent and infusions of fluids or transfusions of blood often are ineffective in treatment. The blood becomes concentrated, the coagulation time lengthened and the sedimentation rate is retarded. During shock the urine is decreased in volume and contains albumin, erythrocytes, casts, bile and other abnormal substances. No characteristic urologic changes result from hemorrhages."

In hemorrhage there is a decrease in the erythrocyte count, hemoglobin and cell volume. The sensorium is not as depressed as in traumatic shock; instead the patient may show great restlessness and an apprehensive expression, extreme pallor of skin, mucous membranes—not the ashen color as seen in shock. Respirations are apt to be deep and rapid (air hunger), unlike the shallow respirations as seen in traumatic shock. Thirst also is a manifestation of severe hemorrhage.

^{1.} M. J. McCarthy, Chicago, in Ill. Med. Jl., May.

The differentiation is of great value in choosing appropriate treatment.

The treatment in surgical shock: Rest, warmth, elevation of the feet, tight bandaging of the extremities. Coffee and whisky if the patient is conscious. Of all the blood substitutes, plasma transfusions is the one choice. It has been stated by Strumia that "there is no emergency condition except carbon monoxide poisoning in which plasma is not as useful as whole blood." Citrated whole blood is best in shock due to "red" hemorrhage where there is profound anemia.

Of the other specific treatments of shock, oxygen therapy is of prime importance. One of the reasons for the irreversibility of the shock syndrome is anoxic damage to the tissues. Early prevention and continued treatment with high oxygen percentages are essential. Adrenal cortical extract is still in the experimental stage and authorities differ as to its efficiency. Cole and his associates have recently shown experimentally this preparation to be of value prophylactically.

In severe shock there is a compensatory vasoconstriction so that many times the veins are difficult or impossible to enter. In such cases canalization of the veins may be necessary, but even this is sometimes not possible due to thrombosis from previous needling. When this occurs, sternal transfusions in patients over three years of age may be used as a last resort.

TETANUS

The spasticity of the musculature persisted and the opisthotonus remained profound and fixed. From the beginning, the patient was placed in an oxygen tent due to the intermittent episodes of cyanosis from respiratory embarrassment. The ever-collecting mucus in the throat and upper respiratory passages precipitated by the many agonizing attempts to regain a normal position made frequent suctioning essential. A constant vigilance was maintained, and a dependable, efficient team of nurses played the major role in the outcome.

Unable to pass a Levine tube even after avertin was administered with intentions of relaxing the skeletal musculature, we relied on solutions of dextrose, plasma, whole blood and vitamins.

On the sixth day a diffuse, urticarial rash—persisted for several days, gradually disappearing. Little change noted for almost three weeks. Laboratory studies on the specimens taken from the wound recealed Clostridium tetani and B. welchi organisms. A piece of splinter placed in the guinea pig produced tetanus in the animal.

The 17th day a very small amount of water was taken orally by means of a medicine dropper. Gradually the musculature began to relax somewhat and increasing quantities of nourishing liquids could be tolerated. At this stage light massage was instituted. By the end of the fourth week the patient was able to walk about with support; the strap muscles of the neck being the last group to relax.

On October 28th, the patient was discharged, fully recovered.

NEWS

VIRGINIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Dr. E. Trible Gatewood, of Richmond, was elected president of the Virginia Society of Ophthalmology and Otolaryngology at its twenty-fourth annual meeting in Lynchburg recently.

Dr. Gatewood succeeds D. Guy R. Fisher, of Staunton. Those presenting technical papers at this meeting included Dr. Fisher; Dr. Raymond McKenzie, Baltimore; Dr. E. G. Gill and Dr. James H. Gressett, Roanoke; Dr. Gatewood and Dr. Peter N. Pastore, Richmond; Dr. H. G. Preston, Harrisonburg; Dr. Charles St. Clair, Bluefield, W. Va., and Dr. H. G. McGovern, Danville.

INFANT MORTALITY AT LOWEST MARK IN VIRGINIA

The State Bureau of Vital Statistics reports that Virginia's infant mortality rate last year was the lowest in the state's history. During 1942, only 54 out of every 1,000 babies born in Virginia died under the age of one year.

This compares with a rate of 66.8 in 1941. When the bureau began keeping these records in 1913, the rate was 103.7.

Pneumonia and the gastro-intestinal diseases, including diarrhea, were the main causes for infant deaths last year. Pneumonia took the lives of 491, compared to 520 in 1941, and intestinal diseases, 289—against 421 the year preceding.

In all, 2,181 white children under one year died and 1,315 Negroes.

DR. M. P. BLAIR'S 50TH ANNIVERSARY IN MEDICINE CELEBRATED

The Union County (N. C.) Medical Society met at the Star Cafe in Marshville the evening of the 17th of May for a dinner meeting in honor of Dr. M. P. Blair's fifty years service in the medical profession.

Dr. Marvin Smith of Monroe, president of the society, presided during the first part of the meeting, after which the turned the program over to Dr. C. A. Bolt, who made appropriate remarks in regard to the long and useful service Dr. Blair has rendered and called upon all members present to tell what was on their hearts. Every one responded with words of praise and appreciation of Dr. Blair and what he has meant to the medical profession of the county and to the public at large. L. E. Huggins, an invited guest, also told something of the high esteem in which Dr. Blair is held and of his faithful service to this community.

Responding to a request from Dr. Bolt, the veteran Dr. Blair declared that he didn't feel worthy of such honor. He gave a short history of his long years of hardship, determination and achievements during his days in medical college and those following when he launched out into the practice of medicine.

Dr. Blair was born in Lanes Creek Township. His father died when he was 13 years of age and he had to largely make his own way. In medical college he lived on two meals a day and wore shabby clothes, but his will power carried him through. For beginning his practice at Olive Branch he bought a horse, saddle and bridle on credit. From there he moved to Troy, Montgomery County, and practiced there until 1909, when he removed to Marshville and has practiced in that section since that time

When he began practicing medicine, the obstetrical fee



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was \$5.00, but then you could buy a good pair of shoes for \$2.00.

From horseback he went to buggy, from that to a onecylinder Brush automobile that had to be pushed up hill. Today he rides in a modern automobile with all the comforts and luxuries, heater, radio, etc.

Dr. Blair has truly served long and well. He has never refused to see a sick person because of inability to pay. However, he is quick to discern an attempt to "do him dirt" and woe be unto the man who attempts to take advantage of his generosity. While he is not willing that any should suffer because of inability to pay, he believes in honest dealing and thinks mighty little of the man who proves himself a deadbeat and a scoundrel.

Attending the meeting were, in addition to the honored member, Dr. G. M. Smith, Dr. W. M. Love, Dr. J. J. Goudelock, Dr. Clem Ham, Dr. R. H. Garren and Dr. Faulk of Monroe; Dr. Griggs of Pageland, S. C., and Dr. Bolt and Dr. McLeod of Marshville.

Dr. T. C. Bost and Dr. J. M. Northington of Charlotte were specially invited, but an unfortunate delay in delivery of their invitation prevented their attendance.

RICHMOND ACADEMY OF MEDICINE

The regular meeting of the Richmond Academy of Medicine on May 25th, 1943, was designated Past President's Night. The program of the evening was furnished by two former Presidents, Dr. M. Pierce Rucker and Dr. James H. Smith. Dr. Arthur S. Brinkley is now President of the Academy. Including the rpesent President there have been fifty-four Presidents since 1890. The twenty-six now living

Dr. Wyndham B. Blanton Dr. Stuart McGuire Dr. William H. Higgins Dr. William F. Mercer Dr. J. Morrison Hutcheson Dr. Ramon D. Garcin Dr. R. Finley Gayle, Jr. Dr. Charles R. Robins Dr. J. Shelton Horsley Dr. Carrington Williams Dr. Alexander G. Brown, Jr. Dr. F.P. Fletcher Dr. Roshier W. Miller Dr. W. Lowndes Peple Dr. Thomas W. Murrell Dr. M. Pierce Rucker Dr. Austin I. Dodson Dr. James K. Hall Dr. J. Powell Williams Dr. Fred M. Hodges Dr. Wm. Branch Porter Dr. C. C. Coleman Dr. Stuart Michaux Dr. Beverley R. Tucker Dr. James H. Smith Dr. Arthur S.Brinkley Of these, five were prevented from being present:

Dr. J. Powell Williams Dr. Stuart McGuire Dr. Beverley R. Tucker Dr. Wyndham B. Blanton Dr. J. Morrison Hutcheson

Dr. J. Powell Williams is in North Africa with the Medical Corps of the United States Army. He has been commissioned Lieutenant-Colonel and he is the Director and Chief of Medicine of General Hospital No. 45.

The former Presidents who are not living are:

Dr. Ennion G. Williams Dr. W. W. Parker Dr. Charles M. Shields Dr. Clifton M. Miller Dr. McGuire Newton Dr. Thomas J. Moore Dr. Hugh M. Taylor Dr. George Ross Dr. J. Spotswood Wellford Dr. A. L. Gray Dr. Charles V. Carrington Dr. W. S. Gordon Dr. Greer Baughman Dr. Landon B. Edwards Dr. Virginius Harrison Dr. John N. Upshur Dr. Garnett Nelson Dr. M. D. Hoge, Jr. Dr. Thomas D. Jones Dr. E. C. Levy Dr. J. Allison Hodges

Dr. A. Murat Willis Dr. Lewis C. Bosher Dr. Joseph Geisinger Dr. George Ben Johnston Dr. Edward McGuire Dr. Karl S. Blackwell

Dr. W. T. Oppenheimer

THE NATIONAL SOCIETY FOR THE PREVENTION OF BLIND-NESS announces that the following colleges and universities are offering, at their 1943 summer sessions, courses for the preparation of supervisors, teachers, nurses and others concerned with the education of partially seeing children, Elementary Courses

Wayne University, Detroit, Michigan, June 21st-- July

Michigan State Normal College, Ypsilanti, Michigan, June 21st-July 30th.

Teachers College, Columbia University, New York City, July 6th-August 13th.

offering the course.

Wayne University, Detroit, Michigan, June 21st-July

Details may be obtained from the University or College offering the course.

Dr. W. C. Arney, of Morganton, has been elected county physician of Burke County (N. C.) to succeed Dr. JOHN W. ERVIN, who resigned. A former member, Dr. Ervin was returned to his old place on the board when he asked to be relieved of the county physicianship to which he was recently chosen, declaring that he found that his practice did not allow him sufficient time to devote to the county office.

Following the special meeting the Burke board met jointly with the Caldwell County Board of Health and approved a combined budget of \$22,593 for the two-county health district. In the budget estimates presented by Dr. L. D. HAGAMAN, district health officer, each county would appropriate \$5,927.50, with the remainder to be furnished by State and Federal agencies.

Dr. Robert Sterling Montgomery, popular young physician of Mecklenburg County (Va.), was elected president of the South Hill Chamber of Commerce at the June meeting. Dr. Montgomery was discharged from Army service because of asthma.

Dr. James W. Tipton, Danville, Va., eye, ear, nose and throat specialist, was fined \$20,000 by Judge Robert N. Pollard in Federal District Court May 27th on six charges of income tax evasion. The Danville specialist pleaded nolo contendere to an indictment listing six charges of evading income taxes from 1936 through 1941, during which period, Lester L. Furr, special agent of the Internal Revenue Department, testified he filed improper returns and paid \$1,373.92 when his total liability to the government was \$22,490.99.

The defense presented no oral argument, but requested that a prison sentence not be imposed. Maximum penalty for each of the six counts is \$10,000 fine and five years' imprisonment. Under the law, in addition to the \$20,000 fine, Dr. Tipton must pay back income taxes amounting to \$27,373.15, plus penalty and interest, which will bring his tax liability to well over \$52,000.

DR. S. D. STURKIE, former health director for the Marion-Bristol (V.) area, takes over his duties as Director of Public Welfare in Lynchburg. He succeeds the late Dr. Mosby G. Perrow, who founded the Bureau of Health, and was its head until his death a few weeks ago.

Dr. G. R. Dawson has recently moved from Charleston to Florence, where he will conduct a private practice and will also be orthopedist to the McLeod Infirmary. Dr. Dawson will also conduct the orthopedic clinic for the Florence District which is composed of seven counties.



At its recent meeting the SOUTH CAROLINA MEDICAL AS-SOCIATION elected Dr. Wm. Atmar Smith of Charleston its president, Dr. Wm. R. Wallace of Chester its presidentelect, and Dr. A. P. McElroy its vice-president.

Dr. C. H. Young, of Anderson, S. C., recently underwent a partial gastrectomy at the Lahey Clinic, Boston.

MARRIED

Miss Eugenia Cameron McClung, daughter of Dr. and Mrs. Hunter McClung, of Lexington, Va., and Dr. John Allison Nesbitt, Jr., son of Mrs. John Allison Nesbitt, of Catonsville, were married May 8th in the Lexington Presbyterian Church. The ceremony was performed by the Rev. Mr. James J. Murphy.

After a Northern trip the young couple will make their home in Baltimore, where Dr. Nesbitt is on the staff at Union Memorial Hospital.

Miss Margaret Mae Hughes, daughter of Mrs. Whittier C. Hughes, of Colerain, N. C., to Dr. L. Bradford Waters, Jr., of Norfolk, son of Mr. and Mrs. L. Bradford Waters, of Lynchburg, May 17th, in Second Presbyterian Church. Norfolk, with the Rev. C. Newman Faulconer, the pastor, officiating.

Dr. and Mrs. Waters will live in Norfolk, where he is on the staff of Norfolk General Hospital.

Mrs. Waters attended North Carolina schools and is a graduate of Norfolk General Hospital Nurses' Training School. Dr. Waters attended E. C. Glass High School and received his A.M. degree from Hampden-Sidney College. He took two years' graduate work at the University of Virginia and received his medical degree at the Medical College of Virginia.

Miss Connie May Evans, of Clifton Forge, Virginia, and Dr. Donald R. Gilbert, of Melvin Hill, N. C., were married May 15th. They will make their home at Spartanburg, S. C.

DIED

Dr. Robert S. Perkins, prominent practitioner of homeopathy and perhaps the oldest practicing physician in the country, died June 4th at his home at Norfolk after an illness of two weeks. Dr. Perkins, who refused to make his calls in an automobile and visited his patients in a buggy drawn by thoroughbred Kentucky horses throughout his 71 years of practice.

He was born in Gates County, N. C., on Aug. 21st, 1847, the son of Dr. and Mrs. Richard C. Perkins, and received his training from his father, a country doctor in Camden County, N. C.

Dr. Perkins considered the modern automobile the "greatest curse to be visited upon mankind," and traveled during winter in a closed carriage, and in the summer months made his rounds in one of his three open buggies.

Dr. Wm. R. Wellborn, Elkin, died suddenly at his home May 24th. Dr. Wellborn had practiced in Elkin for the past 35 years. Among his survivors is a son, Dr. Wm. Wellborn, now serving an internship at the University of Wisconsin Hospital.

Dr. Archie Clay Monroe, for 20 years a practicing physician of Richmond and a graduate of the Medical College of Virgnia's class of 1907, died at his home May 21st. Dr. R. B. Rhett, Charleston, died suddenly at his summer home near Hendersonville, N. C., on March 3rd. Dr. Rhett was a graduate of the Virginia Military Institute and of the Medical College of the State of S. C. He served in the Army Medical Corps in World War I and in February. 1918, was captured by the Germans and held prisoner until the end of the war. For a time he was stationed in Belgium to treat wounded prisoners.

He returned to Charleston after the war, limited his work to ophthalmology and was soon made a member of the faculty of The Medical College of the State of S. C.

Dr. William Townes Wimbish, 68, a member of the medical staff at Central State Hospital, Petersburg, Va., for the last 19 years, died at the hospital June 4th.

Dr. Wimbish was a native of Mecklenburg County, the son of Louis and Lucy Townes Wimbish. After graduating from the University of Virginia he practiced medicine in Mecklenburg County for some 30 years. He was a lieutenant in World War I, stationed at Fort Oglethorpe, Ga. He practiced medicine in Detroit and later in Iowa before becoming a member of the medical staff of Central State Hospital in 1924.

Dr. Edgar William Young, 55, prominent Petersburg physician, died in Petersburg Hospital May 22nd, following a brief illness.

Dr. Young, a native of Disputanta, was graduated from Baltimore Medical College in 1911. He served with the medical corps in World War I, attaining the rank of major, and suffered severe wounds in the battle of Ypres.

MEDICAL COLLEGE OF VIRGINIA

Dr. J. P. Gray, dean of the school of medicine, Dr. John P. Lynch, Jr., associate in medicine, Dr. Harry Walker, associate professor of medicine, and Dr. Douglas Chapman, associate in medicine, attended the regional meeting of the American College of Physicians in Washington recently.

Dr. Donald S. Daniel, assistant professor of surgery, recently spoke to the surgical section of the Medical Society of the State of North Carolina at its Raleigh meeting. During the State society meetings an alumni chapter of the college was organized, with Dr. B. C. Willis of Rocky Mount as president. Dean J. P. Gray, Dr. O. B. Darden, associate professor of neuropsychiatry, Dr. Charles Outland. assistant professor of preventive and public health medicine and president of the general alumni association. and Dr. Daniel attended the alumni meeting.

Dr. E. I. Evans, assistant professor of surgery, attended the War-Time Graduate meeting, sponsored by the American College of Physicians, American College of Surgeons, and the American Medical Association, held in Atlanta, giving a talk on the treatment of burns and shock.

Dr. C. C. Coleman, professor of neurological surgery, attended the meeting of the American Neurological Association in New York, giving a paper on the Treatment of Peripheral Nerve Injuries. He also gave the oration on surgery at the annual meeting of the West Virginia State Medical Society in Charleston on May 18th. his subject being Neurosurgical Procedures for the Relief of Pain.

Dr. W. T. Sanger, president, and Dr. J. P. Gray, dean, attended the annual meeting of the West Virginia State Medical Society and the alumni luncheon held in connection with the meeting on May 18th.

Dr. P. N. Pastore, professor, Dr. E. T. Gatewood, associate professor, and Dr. E. U. Wallerstein, asociate professor, of otology, laryngology and rhinology, participated in

the twenty-fourth annual meeting of the Virginia Society of Ophthalmology and Otolaryngology at Lynchburg on May 15th. Dr Pastore spoke on Osteomyelitis of the Petrous-Temporal; a Case Report, and Dr. Gatewood on the Mechanism of Esophageal Voice following Laryngectomy. Dr. Wallerstein participated in discussions of papers.

Dr. Antonio De Vasconcellos Marques, of Lisbon, recently spent a week in Richmond as the guest of Dr. C. C. Coleman, visiting the neuro-surgery clinics. Dr. Marques is visiting the neuro-surgery clinics throughout the United States

Dr. W. T. Sanger, president, attended a nutrition meeting in Newport News, speaking on the subject of nutrition, recently. Dr. Sanger is chairman of the State Nutrition Committee.

Dr. Harvey B. Haag, professor of pharmacology, and Dr. Lee E. Sutton, Jr., professor of pediatrics, addressed the Cabell County Medical Society in Huntington, West Virginia, on May 13th, Dr. Haag speaking on the Pharmacology of Sulfonamides, Dr. Sutton on the Use of Sulfonamides in Pediatrics.

University of Virginia

The University of Virginia chapter of Alpha Omega Alpha held a meeting on April 26th for the purpose of the initiation of seven new members. Dr. Allen C. Whipple of the Department of Surgery of Columbia University, New York City, spoke on the Principles and Treatment of Surgery.

Dr. Harrison F. Flippin, of Philadelphia, spoke on Clinical Observations on Sulfamerizine and Penicillin" at the meeting of the University of Virginia Medical Society held on May 6th. Several members of the staff of the Schools of Preventive Medicine and Bacteriology and of Clinical Pathology of the University of Virginia Medical Department attended the meetings of the Bacteriology Section of the Virginia Academy of Science in Richmond on May 11th. Dr. Francis Smith collaborated with Dr. J. D. Reid of the Medical College of Virginia in presenting a paper on "Tropical Mycology." Dr. Thomas S. Englar presented a paper entitled War Time Problems of a Local Health Department. At the afternoon session Dr. George McL. Lawson spoke on whooping cough diagnosis and prevention. Dr. Ralph B. Houlihan, Secretary of the Bacteriology Section of the Academy, obtained for the program eight papers dealing with military and civilian problems of Communicable Disease Control and Preventive Medicine.

A BETTER EPHEDRINE-LIKE DRUG

(A. J. Friedman & A. E. Cohen, in Northwest Med., May)

A new synthetic ephedrine-like drug, nethamine hydrochloride, was tried at the Allergy Treatment Clinic at the Louisville City Hospital and in private practice of one of the authors. In comparing nethamine with ephedrine sulfate, it was found that the toxic effects were more numerous with ephedrine, particularly those which indicated central nervous system stimulation.

Of the 23 cases of bronchial asthma, 11 (48%) were improved with nethamine. Of the 23 cases of hayfever, 14 (61%) were improved.

There were no significant changes in blood pressure or pulse with the usual therapeutic doses of nethamine. This new compound seems to be as efficacious as ephedrine with fewer side effects.

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THE THEATRICAL WORLD

"TOMORROW THE WORLD"

"Tomorrow the World," a play by James Gow and Arnaud d'Usesau, directed by Elliott Nugent, presented at the Barrymore Theatre with Ralph Bellamy, Shirley Booth. Dorothy Sands, Skippy Homier and others. This play of tremendous force is about a 12-year-old boy who was taken over by the Nazis after they had murdered his father in a concentration camp. The boy grows up believing fanatically in the doctrine of "Mein Kampf," His mother had been an American and his uncle, a university professor, manages to bring the boy to America.

And there lies the problem, which will in fact be a big problem for the United Nations to solve after the war. The boy is played by Skippy Homier, who is actually only 12 years old and he emerges as the wonder child actor of the age. He has been hailed as superb and marvellous by critics who generally avoid writing about child actors. He makes the boy, Emil Bruckner, as loathesome as the venomous Hitler doctrines, and when in the end there is some hope of his redemption, he is equally convincing and stirring. There are other children in the cast. Nancy Nugent and Joyce Van Patten alternate in one of the roles with great success. Then there is Ralph Bellamy, who plays the professor with humanity and understanding. But this is a play in which the children definitely steal the show, and so eloquently, that it haunts the memory and cannot be forgotten.

"SONS AND SOLDIERS"

"Sons and Soldiers," a play by Irwin Shaw, directed by Max Reinhardt, sets designed by Norman Bel Geddes, featuring Geraldine Fitzgerald, Gregory Peck, Stella Adler and others at the Morosco Theatre.

This is a play in three acts, the action taking place in a small American city in 1916. It dramatizes the hopes and fears of every American mother who brings her children into the world, her drudgeries, her exaltations, her joys, her miseries andanxieties when her sons go off to war. These are every-day events today, but it is written and above all acted so superbly that it becomes freshly exciting.

This seems a season for stars to be born, for in this play Geraldine Fitzgerald rises as one of those wondrous rarities, who by the magic of her performance and thrilling personality, becomes a luminous star over night. But indeed, special honors are due to the entire cast.

"THREE'S A FAMILY"

"Three's a Family," a farce comedy by Phoebe and Henry Ephron, settings by Stewart Chaney, presented by John Golden at the Longacre Theatre.

This comedy in three acts and five scenes takes place in a New York City apartment, time, the present. Here is a play in which the Doctor carries off all the honors. Dr. Bartell as played by William Wadsworth, actually stops the show at every performance. Every Doctor will find a most diverting and chuckling satisfaction in this public airing of the comic side of baby deliveries and the situations attendant to the births of the some three million babies who were born last year.



BOOKS

A MANUAL OF CARDIOLOGY. by THOMAS J. DRY, M.A., M.B., Ch.B., M.S. in Medicine, Assistant Professor of Medicine, University of Minnesota (Mayo Foundation); Consultant in Section on Cardiology, Mayo Clinic. 310 pages with 80 illustrations. W. B. Saunders Company, Philadelphia and London. 1943. Price \$3.00.

One cannot fail to be prepossessed in favor of a book on cardiology as small as this—300 pages and they not large. In size and in content it reminds of Sir Thomas Lewis's book on the same subject. It reminds, too, of an essay of Henry Van Dyke in which he makes the excellent point that "enough is not as good as a feast—it is better." Much that is being written on heart disease is needlessly obfuscating; much of it is needlessly tedious; much of it is mere redundancy. Dr. Dry's book is neither. It tells the doctor who has a patient with heart disease what he needs to know, plainly, and with no circumlocution.

A MANUAL OF CLINICAL THERAPEUTICS, by Windows C. Cutting, M.D., Associate Professor of Therapeutics, Stanford University School of Medicine, San Francisco, Calif. 609 pages. W. B. Saunders Company, Philadelphia and London. 1943. Price \$4.00.

The author realizes fully that effective prevention and treatment are the ultimate goals of medicine and he acts on this knowledge. This manual is a well-balanced consideration of our present knowledge of prophylactic and curative therapy. The author shows no evidence of having any tendency to fadism. For every therapeutic measure offered he considers the evidence pro and con and then renders his judgment, not in all instances as final, but as reasonable on the basis of the evidence adduced to date. It is reasonable in size, indeed reasonable in every way.

NUTRITION AND DIET IN HEALTH AND DIS-EASE, by James S. McLester, M.D., Professor of Medicine, University of Alabama, Birmingham, Ala. Fourth Edition, Thoroughly Revised. 849 pages. W. B. Saunders Company, Philadelphia and London, 1943. Price \$8.00.

Dr. McLester is an authority on nutrition, a fact that is attested more and more as his book comes out in new editions. Of course the dealing with vitamins will be read more carefully than will any other section, and this section is written with great conservatism. The marvelous things that have been discovered as to their importance are set forth fully; but there is no suggestion that it is desirable or even possible to feed ourselves on tablets, capsules and liquids from the drugstores.

Under nutrition in disease we find chapters on deficiency diseases, diabetes mellitus, gout, obesity and leanness, food poisoning and allergy; and on diseases of the kidney and urinary tract, of the digestive organs, of the heart and arteries, of the blood, of the joints, or the nervous system; and on endocrine disorders, diseases of the skin, feeding the surgical patient, and nutrition in industry. An appendix deals with special methods of feeding, storing and processing foods and methods of cooking.

Certainly no better coverage of this important subject is to be found anywhere.

THE SIGHT SAVER, by C. J. Gerling. Harvest House, 50 West 17th Street, New York City. 1943. \$2.00.

The author undertakes to acquaint the reader with the elementary anatomy and physiology of the sight apparatus, with the physics of vision and with the commoner disease conditions and effects of injuries, with no idea of encouraging self-treatment. For treatment he recommends "a graduate physician or oculist." The book is well-written, and except for its too-firm faith in the effects of "eye-strain"—the very existence of which is disputed by many oculists—it may well be commended unreservedly. How to get its teaching before the public is not clear.

HOPE DEFERRED, by JEANETTE SELETZ. The Macmillan Company, 60 Fifth Avenue, New York City. 1943. \$2.75.

The story of how a remarkable son of a remarkable mother worked out his medical education and career under great difficulties. His personal life is as unusual as his professional. One might reasonably conclude that the author's characters and style reflect entirely too much of the Hollywood influence.

BLOOD PRESSURE FLUCTUATIONS IN BRONCHIAL ASTHMA

(Howard Osgood, Buffalo, in Jl. Lab. & Clin. Med., May)

Wide fluctuations of the systolic blood pressure, synchronous with respiration, are a constant finding in bronchial asthma. The high point of the fluctuation occurs during expiration, the low point during inspiration. The amplitude of these fluctuations parallels closely the severity of the asthma. When the asthma has subsided, the fluctuations return to normal. This respiratory systolic fluctuation is a useful clinical sign, indicating approximately the degree of respiratory obstruction present.



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The Problem of the Etiology of the Cancer Process*

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From the University of Texas Biochemical Institute and the Clayton Foundation for Research

ROM THE STANDPOINT of the causal elements involved, the cancer problem has occupied the attention of workers for a long time. Rightly or wrongly, many have felt that some idea of the immediate cause of this disease must be obtained before much progress in the way of control could be achieved. Naturally, no one would expect (for a long time, at least) more than a general understanding of the sequence of events which is associated with malignant tumors; but if it could be said definitely that cancer was due to a virus, for example, cancer research could become more concentrated and much more effective. For at least under such circumstances there would be a little light to guide the investigator, whereas without such a basis there is none.

If one were able even to glance through the immense number of reports which have been made on this aspect of the cancer problem, a sense of confusion would inevitably take hold on him. There have been and are so many ideas, each with an apparent backing in research, that it becomes difficult to evaluate the conflicting hypotheses.

One question may be asked by the research worker who is concerned with the cause of cancer which may help to bring the various aspects of the problem into sharper focus. Is the cancer process basically the same wherever and however it occurs, or is cancer a name which covers a number of separate diseases?

To some this may seem a needless inquiry. Many, perhaps most, workers engaged in cancer research will agree that, on the basis of present data, tumor development and growth are basically the same however much individual neoplasms may differ from one another. However, it is to be noted that if the cancer process is a common process, then it is extremely likely that the various kinds of malignant growths are the result of the same general initiating cause. Many who accept the first proposition find the corollary unacceptable.

TUMOR METABOLISM

The first serious approach to the problem of whether or not various types of tumor resemble each other in fundamental cell metabolism was made by Warburg and his coworkers and others who used techniques similar to those which he developed. ^{1 2 3 4} Intensive and extensive studies of various tumors as well as normal tissues have indicated that there are fundamental differences between cancerous and normal tissues. About as definite a statement as is justified by the facts is made by Warburg, "... very different types of tumors agree quantitatively as regards glycolysis to a considerable extent."

Craig and coworkers have recently reported⁵ that the Cytochrome C level is much lower in tumor tissue than in normal tissue. This should be reflected in differences of metabolism.

^{*}Prepared for presentation to the 1943 meeting of the Tri-State Medical Association.

Another line of evidence in favor of the concept that cancers of various kinds reflect a common process is found in some of the primary effects the presence of tumor tissue has on the host animal. Greenstein and coworkers have shown that tumors of various types greatly depress the concentration of liver catalase. 6 7 Studies in this laboratory have demonstrated that various kinds of malignant growths directly affect the hemoglobin concentration of the blood even in the earlier stages of tumor development. This was found to be true also for the hemoglobin level of the blood of the embryo chick from eggs bearing volk-sac tumors of rat or mouse origin.89 Unpublished data for an experiment involving a large number of animals indicate that the blood hemoglobin level of the host animal is depressed in direct relation to the amount of tumor tissue present in the body.

B VITAMINS IN NEOPIASMS

Recently a more comprehensive investigation into this problem of the uniformity of the cancer process was undertaken here. Over a period of several years, Williams, Snell, Mitchell and coworkers had pioneered in developing and perfecting methods of B vitamin analysis of tissues.²⁰

The experience gained in these techniques was applied to an investigation of the B vitamin content of tumor tissue. 20 25 It was felt that data of this kind for a wide range of tumors of varying types, manner of induction and animal hosts might prove of special significance in evaluating the relation of one kind of tumor to another. This appeared to be so, since the B vitamins are absolutely essential for the maintenance of life over such a wide range of the biological world, indicating participation in fundamental aspects of cell metabolism.

The study was carried out on tumor material from the mouse, the rat and man, together with an extensive series of assays on normal tissues of these animals for purposes of comparison.

The mouse tumors were made up of spontaneous and transplant mammary carcinomas from *dba* and C3H mice, and methylcolanthrene-induced sarcomas from C57 mice.

The rat material consisted of Walker carcinomasarcoma No. 256, and p-dimethylaminoazobenzeneinduced hepatomas.

The human material was carefully selected under the direction of Dr. C. P. Rhoads of the New York Memorial Hospital for the Treatment of Cancer and Allied Diseases, and included 23 malignant tumors comprising 15 clinical types.

The results of this investigation can best be given by quoting part of the summary of one of the published reports which reads, "It was found that normal tissues of the same kind have a high

degree of vitamin uniformity, but that mixed types of normal tissues resemble each other to a lesser extent in this regard. The tumor material was found to have a high vitamin uniformity. This was true whether the comparison was made between tumors of one host species or among tumors of all three of the animals concerned. So far as the tumor material utilized in this investigation could be used as the criterion, neoplasms of different tissue origin, manner of induction, sites, and animal species thus appear to be somewhat alike in cellular metabolism, forming, in effect, a common tissue type."25 One especially striking instance of the uniformity of B vitamin content which is associated with the cancer process is furnished by a comparison of the B vitamin uniformity of three normal tissues with the uniformity in this respect shown by tumors arising from these tissues. Human renal, ovarian and mammary tissue resembled each other in the levels of the B vitamins to the extent of 11 per cent; while mammary, ovarian and renal carcinomas were 60 per cent alike in B vitamin content. Another instance is to be found in the rat tissue assays. Hepatomas resembled adjacent normal liver tissue in B vitamin content only to the extent of 22 per cent, while hepatomas from different rats were alike in this regard to the degree of 78 per cent.

On the basis of the B vitamin content, then, we arrive at the same conclusion as that which resulted from the glycolytic and other studies of tumor metabolism. The cancer process seems to be essentially the same wherever and however it appears.

VIRUS-INDUCED TUMOPS

It has been stated earlier in this paper that if neoplasms of various types and animal hosts be the result of a common underlying process, it then becomes extremely likely that the initiating basic cause is the same in each instance.

In 1911 Peyton Rous, for the first time in the history of cancer research, discovered the immediate cause of a malignant tumor.²⁷ He was able to demonstrate that a sarcoma which occurs in fowls results from a cell-free agent, or as is now generally agreed, a virus.

In the intervening period many other fowl tumors have been found to be the result of virus action and there is now an extensive literature in the field of virus tumors.

These tumor viruses seem to be in an entirely different category than what is usually meant by chemical or physical carcinegens. Powerful tumor-inducing substances such as methylcholanthrene will produce malignant growths in different tissues and in various species of animals. Furthermore, once the tumor is started, the presence of the chemical is no longer necessary. In general, these con-

siderations characterize the actions of other chemical and physical carcinogens.

Viruses associated with the production of the chicken tumors, on the other hand, appear to be more immediately concerned with the neoplastic process. Each virus acts on a specific tissue to bring about the development of a tumor of the same type as that from which it was originally obtained. Furthermore, as the tumor grows, there is a parallel production of more virus. Each cancer cell appears to have its quota of the tumor agent.

It is to be noted that the tumor viruses are intracellular products and ordinarily are unable to move from cell to cell since the intercellular fluids (blood and lymph) possess neutralizing substances (antibodies) which render the tumor agent ineffective. Hence secondary tumors are generally due to metastases.²⁸

The main objection to the virus theory of cancer causation lies in the fact that only a comparatively few malignant tumors have been shown to have a causative virus associated with their development and growth. Moreover, with the exception of a tumor which develops in the renal epithelium of the leopard frog, 29 all malignant growths capable of propagation by a cell-free agent have been confined to domestic fowls. The nearest approach to anything of this sort in mammals is the Shope papilloma, a benign tumor which has been shown to be of virus origin and which grows in the skin of the cottontail rabbit. 30

MAMMALIAN TUMORS AND THE VIRUS THEORY

On the basis of the results of the B vitamin assays and of Warburg's and others work on tumor metabolism, it appeared to us that the production by a virus of even one malignant tumor was enough to make the virus theory of cancer causation worthy of serious consideration. This seemed especially so in view of the fact that as yet there is no alternative. Other than a virus, no specific causative agent has ever been linked with tumor development and growth. It was from this standpoint that an investigation was begun here with the object of attempting to extend the implications of the virus theory to a mammalian malignant tumor.

Assuming as a working hypothesis that the general principles found to apply to the known virus tumors can be extended to tumors not yet shown to be in this category, then one aspect of the problem became that of freeing the tumor agent from the neutralizing bodies which are supposed to be especially concentrated in the blood of tumor-bearing animals. A possible tool which might accomplish this was already in existence at the time this study was begun.

Cox and others had demonstrated that the yolk sac of the developing chick embryo was suitable

for the growth and concentration of some of the viruses such as the Rocky Mountain spotted fever and the typhus groups.³¹ The idea occurred to us that this medium might also propagate cancer virus without at the same time building up the masking antibodies.

The first procedure used to test this possibility was to inject hypodermically-dispersed quantities of sterile mouse mammary cancer tissue into the yolk sacs of the chick embryos. It was thought that the cancer cells would die and disintegrate under these conditions, thus releasing the contained virus into the surrounding yolk material. It was hoped that, as had happened with some other viruses, this yolk medium or the yolk-sac membrane might prove suitable for the growth and consequent concentration of the tumor agent.

THE PRODUCTION OF MOUSE MAMMARY TUMORS WITH A VIRUS-LIKE PRINCIPLE

Early in the study it was discovered that the yolk-sac of the chick embryo is capable of supporting the growth of tumor tissue (mouse and rat). Eggs inoculated on the fifth day of development and carried through the 17- to 18-day period were found to contain rapidly-growing, vigorous tumors. These egg-grown neoplasms attained to as much as 5 grams in weight in some instances. ³² ³³

Berkefeld-filtered extracts have been prepared from the yolk, yolk membranes, yolk-sac tumors, chick blood and chick livers of tumor-bearing eggs. In other instances, such materials have been frozen and dried *in vacuo* over phosphorus pentoxide.

These preparations have been injected back into dba mice, animals which have been used for most of the work until recently, with varied results. The most clear-cut evidence of the presence of a filterable agent came from Berkefeld-filtered extracts of a series of 13 tumor-bearing eggs which, when opened, were found to contain hemorrhagic volksac tumors, several grams in weight. The volk substance contained an appreciable amount of partially hemolyzed blood. The tumor tissue was removed and the yolk-sac with its contained volk was shaken up with an equal amount of 0.85 per cent saline solution. This material was centrifuged and the supernatant liquid passed through an Nsize Berkefeld filter. The filtrate thus obtained. when injected subdermally into female mice, produced malignant carcinomas of the same type as the tumor tissue originally injected into the eggs. These tumors induced with the cell-free agent developed and grew as rapidly as optimum implants of the donor tissue.34

We have not had such gratifying results with other extracts or with yolk extracts from eggs bearing smaller tumors. Under these apparently less favorable conditions many experiments are completely negative while others show a small percentage of takes and tumor development two to four weeks after the mice are injected with the extract. In some instances tumors have appeared which grew very slowly and then remained stationary for several months after which they became malignant.

Early in the work an effort was made to obtain the tumor agent directly from volk-sac-grown tumor tissue without success. Recently it has been discovered that if the egg-grown cancer tissue is frozen immediately after removal from the yolk sac and then dried in vacuo, while still frozen, over phosphorus pentoxide, the tumor-producing principle is preserved. Saline suspensions of egg-tumor material treated in this fashion have produced malignant tumors in adult mice when injected subdermally in the region of the mammary-gland tissue. Mammary cancers induced in this manner have developed to measurable tumors (0.6 cm. in size) in one to two weeks after injection. This is in contrast to our best Berkefeld filtrate of the volk which produced measurable tumors (0.6 cm. in diameter) in four days after injection. However, the use of the yolk-sac-grown tumor tissue enables the investigator to demonstrate the tumor agent with eggs bearing relatively small tumors.

Such evidence as is at present available indicates that the freezing-drying technique may also be the best way of handling the tumor agent which is contained in the yolk.

Data in our possession all point to the extreme lability of the tumor-producing principle. It rapidly becomes ineffective at room temperature and can be preserved for only a short time in an ordinary refrigerator. It is now felt that much of our earlier irregular results may have been due to the lack of recognition of the instability of the tumor agent. When the concentration of the tumor agent in the egg is comparatively low, this factor becomes especially important.

It has been suggested that the "virus" asociated with the production of mammary tumors in the mouse may be the same as the milk factor which Bittner and others have shown to be concerned with the susceptibilities of mice to this type of cancer. ³⁵ ⁸⁶ If this should prove to be so, information would be available for the first time in cancer research regarding the causal agent of a tumor and how this agent was passed from mouse to mouse.

The demonstration of the production of a mammalian malignant growth by a cell-free agent, which is a product of a similar tumor added to the malignant tumors of the fowl and the benign tumor of the rabbit already known to be virus-produced, strengthens the whole virus theory of tumor causation to the point where it is hoped more investigators will accept it as a working hypothesis. At the

present time cancer research is broken up into many fronts without any uniting hypothesis to correlate the heterogeneous results. This state of affairs weakens to a considerable degree the effectiveness of the many-sided attack on the cancer problem.

If the virus concept of tumor causation were to be extended to the whole field of cancer many of the seemingly conflicting data would assume a more orderly pattern. Briefly summarized, the implications of this theory are as follows:

- 1. Cancer is basically the result of the intracellular action of a virus. Whether definite types of viruses are responsible for different tumors, or whether one virus which is subject to modification is the actuating entity, is unknown. Recently Duran-Reynals has obtained evidence for the latter possibility.⁸⁷
- 2. An animal susceptible to the development of a tumor carries the activating virus in the intercellular fluid (blood). Normally this virus is "masked" by neutralizing substances in the blood (antibodies). When tumors are produced by the injection into a tissue of a virus capable of causing a tumor, the concentration of the tumor agent is great enough in a local area to neutralize this antiviral antibody and at the same time to infect the cells.
- 3. Carcinogenesis results when the antiviral antibody system in some area becomes ineffective and tumor virus enters the cells of tissue which it is capable of infecting. As soon as the tumor agent becomes intracellularly established, transformation to the neoplastic condition commences.

Once the tumor develops, increased virus is released into the blood which in turn stimulates the production of antibodies. Hence it is uncommon for a second tumor to develop after the first has become well established except by the process of metastasis.

4. Chemical and physical carcinogenic influences facilitate in some way the entrance into the cell of the tumor virus. According to this concept, such carcinogenic factors are associated with the production of tumors for which the animal possesses a susceptibility. That is to say, methylcholanthrene applied to a tissue would evoke the production only of tumor types for which the animal carried the causative viruses.

SUMMARY

Neoplastic tissue of various types and from various animal species appears to be metabolically similar. This is well indicated by the uniformity in glycolytic characteristics and in content of various B vitamins. Available data thus favor the assumption that the cancer process is basically the same wherever and however it occurs.

It has been known for some time that certain malignant tumors which occur in the domestic fowl are the result of the intracellular action of a virus.

Recently it has been shown that a cell-free, virus-like principle is the immediate cause of mammarv cancer in the mouse. This was accomplished by the use of a newly-developed technique whereby tumor tissue can be cultivated in the yolk-sacs of developing chick embryos.

These data greatly strengthen the virus theory of tumor development and growth and it is suggested that this theory is now worthy of more serious consideration as a working hypothesis for research workers in the field of cancer.

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The Emergency Treatment of Acute Psychiatric Problems*

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CUTE PSYCHIATRIC EMERGENCIES and A their management are of considerable interest and tremendous importance at all times in the civilian life of any well regulated community. Often enough, upon their efficient and timely handling depends life itself, the welfare of others, and the safety of community and personal property. If this statement is true in peace-time, then it needs double emphasis in war-time and in the military services where there is at stake not only the safety of the individual soldier but also the welfare and morale of his comrades, the protection of valuable and vital documents, and the success or failure of military ventures or tactical maneuvers. Certainly nothing does more to enhance the prestige, or to prove the indispensability of the psychiatrist than does his ability to handle well a sudden psychotic episode in a patient. Even the wise. poised, confident medical man with psychiatric insight is usually quick to sense the need for competent psychiatric opinion and advice, to avert total disruption of his otherwise usually tranquil existence when confronted with an acutely emotionally upset person, a roaring delirium, or a belligerent paretic. Even the long-treated neurotic reactions become something of an emergency when they fail to respond satisfactorily to certain medicines and reassurance, together with encouragement. Most relatives, if not initially frightened and frantic, soon tire of the constant care for and observation of a person difficult to manage. Nevertheless, temporization is often the order of the moment, which later makes more imperative the need for immediate, concerted psychiatric action.

With these few introductory remarks let us proceed to a brief discussion of some of the factors contributing to the development of the acute psychiatric emergencies in civilian and military life, before passing on to an enumeration of the various kinds of reactions encountered and their treatment.

The development of acute psychiatric conditions in the civilian may come about as a result of anything that alters or hinders the proper development and functioning of individual human behavior, that adversely influences the development of the integrated personality, or that makes for the unsatisfactory functioning of the individual through attitudes, reactions or personality trends which make
it difficult for the person to manage efficiently his
personal and situational problems and interpersonal
relationships. Numerous indeed are the pitfalls.
Nevertheless, the ordinary fellow's assets and liabilities are commonly well enough balanced so as
to allow him to overcome considerable handicaps
and to achieve satisfactory and comfortable living.
In many other instances, even after a break has
occurred, the skillful, experienced and plastic therapist may be quite helpful in restoring adequate
functioning.

The bulk of evidence and the consensus of opinion seem to point to the fact that war does not produce a new kind of reaction or war neurosisthat is, a specific neurosis created exclusively by the particular conditions of warfare—although, to be sure, many variations may be noted. Usually, however, no psychiatric symptom-complex occurs in war which does not occur in peace. The only influence that war has is that it offers opportunities for the development of neuroses in much greater concentration and frequency than do the conditions of peace. Nevertheless, it may also be that the course of the neurotic or psychotic disturbance precipitated during war may be influenced, in a measure, by the conditions that prevail at the time. This is notably the case with many of the mild psychotic disorders which occur during war but are transient and disappear after a variable time. There is, however, much difference of opinion as to just how permanent these recoveries are. It is true, though, that by far the most frequent and important psychiatric condition occurring during war is the neurosis, the treatment of which constitutes an emergency which must be handled early and efficiently because it overshadows all others in importance-due to its frequency, the diagnostic difficulties, the errors that have been made in the past, the forensic problems consequent on it, and the problem of military discipline involved.

Any soldier manifesting signs of an incipient or active personality disorder should be referred immediately, if possible, by the medical officer to the psychiatric specialist, in order that he may be

^{*}From the Henry Phipos Psychiatric Clinic, Johns Hopkins Hospital, Baltimore. Delivered to the Neuropsychiatric Section of the Baltimore Medical Society, Baltimore, December 10, 1942.

given treatment and made fit for efficient service or be eliminated from the service.¹

To the discussion of the contributing factors in the civilian emergencies the following sources of potential strain might be added in the case of the military man:

- 1) Separation from family, friends, etc.
- Continuing responsibility for home, business, etc.
- 3) New and different living conditions
- 4) New restrictions
- 5) New disciplines
- 6) Loss of the individuality of civilian life
- 7) Need to subordinate personal interests
- 8) Changes in habit routines
- 9) Deprivation of luxuries and pleasures
- 10) Excessive fatigue
- Homesickness, disturbing letters from home, or break in contact with home and family
- Increased responsibility as might be entailed in promotion
- 13) Sex deprivations, adventures and conflicts
- 14) Routine and monotony
- Disappointment and feelings of frustration with resultant apathy and air of resignation
- Fuller realization of duties of a combat soldier leading to conflicts
- Civilian attitude as compared to social standing of the soldier
- 18) Insufficient training, remaining too long in one sector, lack of diversion and distraction, cancellation of leave, mass attitudes, anticipation of danger, and the general tension and excitement.¹

The treatment of the psychiatric emergencies varies greatly with the degree of individualization of any procedure used, the quality, depth and quantity of it depending on whether the general situation is one of peace or war; and, if the latter, the zone of treatment, namely-whether therapy must be instituted within the combat zone or in a special psychiatric hospital in a rear area.1 If the problem arises in peace-time therapy will depend on the psychiatric facilities available; for instance, whether the management is undertaken in an isolated community or in a well-equipped psychiatric institution, possibly connected with some large general hospital; the number of psychiatric casualties requiring treatment at a given place at a particular time; the number of psychiatrically trained physicians and other personnel available, and the types of disorder requiring psychotherapy. It is interesting to note that whereas in the army the psychoneuroses and fatigue-states constitute by far the most frequently seen reactions in need of immeiate care, in peace-time the major psychoses, including the panic reactions of psychotic proportions, make up the bulk of acute psychiatric conditions which need be handled as emergencies. The earlier treatment measures are instituted the better the outlook. The sooner the patient receives treatment the better are his chances for recovery and for a favorable ultimate outcome. Much depends. therefore, on the early recognition, prompt removal to psychiatrically equipped centers, and the immediate institution of appropriately selected measures. The major psychoses should always be transferred to and treated in special psychiatric hospitals or in psychiatric units of general hospitals. It has been found that the nearer the site of inception of the disorders, especially the psychoneurotic ones, the treatment is instituted, the better the expectancy for recovery. Some license must be granted for removing the patient from the immediately troublesome situation and sources of strain while the treatment program is being carried out, for it is a little difficult to offer reassurance and encouragement or to convince a person of an ultimately favorable outlook for his illness when the treatment is being carried out in the midst of things that have been disturbing to him, and especially if the therapist has to raise his voice in order to be heard above the noise caused by anti-aircraft fire and exploding shells. A spot somewhere 20-30 miles from the active combat area seems preferable for the exacuation hospital setup. Here the individual will still be in touch with the condition in the active combat zone and will not not have opportunity to grow too fond of the comforts and securities of life in a psychiatric hospital in an area far removed from battle. Rehabilitation and getting the man back into the front-line combat is therefore relatively easier. Along with early treatment, the psychiatrically sick patients should be separated as rapidly as possible from the other healthy soldiers, in order to keep up the morale of the others, for an upset patient can have a markedly bad effect on the attitude of the others. There is considerable evidence to show that, under pressure at least, people have a great fear of losing their mind, which they frequently consider worse than death itself; for such insanity is considered as something that one is doomed to have for a long time, and in addition they repeatedly compare the patient's upset condition with his former well-integrated self with resultant pity. This fear of losing their mind is particularly disturbing to others because of worry over the possibility of having to spend the rest of their life that way. For this reason the psychoneurotic patient should be treated preferably in a ward in which all such cases can be segregated and isolated from the organically sick. Such segregation also diminishes the chances for hysterical imitation of disabilities. This is usually most easily accomplished in a psychiatric unit; but these patients may be adequately treated on the general medical wards, provided there is a sufficient number of psychiatrically trained physicians, nurses and attendants. Wherever the psychoneurotically sick patient is treated there must be available facilities for keeping him actively and constructively occupied if the treatment is to be successful.

Regarding civilian casualty centers and the problems of management apt to arise there, some wellthought-out preparations need to be made. In general the civilian population holds up surprisingly well. There is much less actual need for psychiatric assistance than one would expect. Although much of the astonishingly good information obtainable from the English experiences with casualties may well be colored by the need for favorably influencing morale, the fact remains that civilian casualties were surprisingly few and that many of the emergency casualty centers were closed because of the lack of something to do. The incidence of panic is very, very small-least among the intelligent, cultured classes. One is much more apt to see its occurrence among some of the not so well-endowed and more highly-suggestible colored people. In the event that an acute emotional upset does occur in an otherwise fairly tranquil environment, then certainly every effort should be exerted, with all the means available and even restraint if necessary for a time, to quell the uprising until better disposition can be made and more adequate measures instituted, which should be done as quickly as possible. The chances of a direct hit on any particular individual are rather slim. In Spain⁵ the inhabitants preferred to remain in their own dwellings and establishments during day-time raids, rather than be subjected to the constant disruptions of seeking shelter and the subsequent idleness. At night it was a different story; all wished to get their sleep uninterruptedly and went regularly to the shelters. This may do if one wishes to take chances; but, in England, it has been found that definite precautionary measures-rules and regulations closely followed by all-pay dividends. Rather than depending on too elaborate planning and scheming, much, necessarily, has to depend on the initiative and spontaneity of the selected personnel and others present at the time.

From the foregoing remarks it may readily be seen that the problems coincidental with treatment are really too numerous to permit a presentation here of anything more than a general orientation as to psychotherapy and some of the practical measures found useful. For this reason the remainder of the discussion can only be considered as useful for the purpose of reorienting measures already familiar to most of you; but it is hoped

that the material will be organized in such a way as to be helpful in enabling you to recall some of the experiences that may have been helpful to you all, in so experienced a group as this, at some time in the past.

Since the psychiatric problems in warfare are basically the same as in peace-time, the treatment is essentially the same, with some reservations of course. The essential points in the treatment of the various acute psychotic episodes is therefore quite similar. For convenience, they might be considered under the headings of some of the more or less commonly seen reaction types.

The organic reactions are personality disorders due to congenital or acquired defects of the central nervous system. In the excitement these patients are overactive, angry and suspicious. Due to the intellectual deficit, they have difficulty understanding our therapeutic approach. Immediate hospitalization is indicated to avoid blundering which may lead to serious personal involvement. To avoid disturbing their orientation they should have a minimum of shifting around. The light may be left on at night to avoid shadows. The introduction of new and confusing things should be kept at a minimum, as must be the introduction of stimuli of various sorts. Sedatives should be reserved for use in relatively large amounts in so-called knock-out doses to snow the patient under when acutely upset, and to promote sleep and relaxation. The extensive use of hydrotherapy in the form of tubs and packs is strongly recommended, but with due consideration for the physical condition, especially of older people. Patiently renewed attempts at establishing a good contact with the patient, with cautious utilization of previous interests and protection of sensitivities, often lead to good rapport even before the excitement has subsided. Symptomatic care, supportive measures and direct treatment, when possible, of the etiological agent or factors are to be used as indicated. The remainder of treatment consists of: 1) Modification of responsibility to fit the individual's limited abilities; 2) reassurance and encouragement; and 3) assistance of the individual in evaluating his asests and liabilities, thus helping him to accept himself as he is, as well as aiding him in his adjustment to some level of duty.

In the depressions the treatment takes the following form: 1) Psychiatric hospitalization for patient's preservation—prevention of suicide and self-mutilation; 2) maintenance of health and physical status by symptomatic and supportive measures; 3) diversion by controlled exercise, occupational therapy, games and simple work; 4) discussions with patient to promote modifications and shifts in his attitude through a satisfactory inter-

personal relationship; 5) hydrotherapy, sedative at night and several times a day if needed, benzedrine sulphate morning and noon; 6) electroshock treatments; and 7) one must be alert for depressive panics which are handled by measures applicable to the treatment of panics in general. This includes isolation, reassurance and considerable explanation conducive to good rapport which aims at establishing a sense of security for the patient, hydrotherapy, sedation in large amounts, strict suicidal observation and careful formulation of all therapeutic moves.

Of the elations and excitements, in addition to those already mentioned, namely, the organic excitement and depressive panics, one sees the following: Manic, schizophrenic, paranoid, delirious and panic excitements—including homosexual panics—and the excitements in psychopathic personalities as well as those sometimes seen in epileptics. The management of most of these is essentially the same and includes the following measures, with some special exceptions or additions in individual reactions as noted:

All pronounced elations should be admitted to appropriate psychiatric hospitals immediately. In general their treatment requires rest, occupation, and avoidance of stimulation. The stimulation may well be decreased by isolation in a room. Sedatives should be limited to use at night for sleep. Paraldehyde in fairly large doses, or sodium amytal, seem to have advantages. Overactivity may be controlled by tubs and packs—the latter having a stronger hydrotherapeutic effect. The excited patient should be furnished with something to occupy his time, even if it is fairly simple occupational work. Symptomatic care and maintenance of the physical status are quite important. If the patient fails to eat, loses weight and falls below the minimum nutritional requirements, tube-feeding should be resorted to. Prolonged-sleep treatment is sometimes helpful in shortening the periods of elation. Electro-shock treatments may likewise be beneficial. In the extreme excitements sodium amytal may be given by intravenous injection. Rarely sodium pentathol is administered. The treatment depends largely on the symptoms of excitement and the personality trends-the constitutional make-up. Managing excited patients is more difficult when dealing with self-assertive and paranoic personalities or when the patient's judgment is affected by constitutional or acquired deficit (organic psychoses), when his grasp is limited (panics and delirious reactions), or when catathymic factors are important. The patient, understanding and confident attitude, and the timely approach of the seasoned therapist, may be utilized for the establishment of a satisfactorily working interpersonal relationship. The treatment of patients with systematized paranoid delusions tests to the supreme degree the patience, understanding and psychiatric knowledge of the physician. It is well to remain neutral and to refrain from arguing with the patient. Likewise, it is unwise to try and explain away his delusions, and much better to try leading the patient gradually to the point where he will ask questions, whereupon it is easier for the physician to offer alternative ways of looking at the problems and thus perhaps gradually separate the patient from his false beliefs.

The treatment of the delirium demands the immediate elimination of any etiologic factors whenever possible, and the institution of appropriate measures to counteract their effect. They are best treated with extensive hydrotherapy, which may be carefully regulated according to the physical status which must be maintained. All procedures should be simple, and the smallest possible number of strange persons introduced. Marked fear is predominant and the patient should be reassured whenever anything disturbs him. These patients require constant supervision and attentive nursing care for protection against suicidal escapes from threatening dangers and from incidental suicide due to disorientation. Sedatives should be administered only at night, with rare exceptions, and in sufficient quantity to prdouce the desired effect by the first dose.

Panic excitements present a similar problem, since we deal with extreme fear and insecurity, usually with paranoid projections, and often with difficulties in thinking. The main problem lies in establishing rapport sufficient to allow the patient to find some security in turning to someone whom he can trust. Therapeutic procedures will then be more readily accepted. Topical discussions may be postponed until the patient has found security and ease. The frequent dramatic behavior must be taken seriously and reassurance offered. To repeat, these patients are quite suicidal and need careful protection. In the quieter periods they usually do well with suitable occupations.²

Excitements are seen in psychopathic personalities not infrequently. Logan, in reporting "Psychical Illness Among the Services in Singapore," gives an astonishingly high percentage of psychopathic personality as the dominating clinical picture, with or without an engrafted psychotic or psychoneurotic state. Many of these patients are inclined to react easily with brief outbursts of anger and combativeness even during quiet periods. When this occurs they ought to be transferred immediately to a disturbed ward where correct treatment can be administered. Grelinger found similar results in

Holland, but this has not been substantiated in reports from many other places. It would seem that terminology and methods of selection as well as of induction into the Army have a great deal to do with the varied reports. In the studies at Tobruk⁴ the neuroses were by all odds the conditions most frequently encountered, as was also true in the reports of the evacuation at Dunkirk.

Another very interesting aspect of the acute psychiatric problems is the discussion of treatment and therapeutic suggestions for the fatigue states and the psychoneuroses, since they are encountered quite often. Confusion is a psychopathological phenomenon seen fairly commonly and dependent on an alteration or diminution in general grasp. Often it is but symptomatic of an underlying fatigue, a toxic or infectious state, or exhaustion, but there is often found some underlying personality conflict or emotionally charged material that makes the soldier tense and renders him more susceptible to fatigue. This often has to do with the loss of individuality, frustration of the formation of goal ideas, and a disorientation in the personal sense. Interesting observations have been made in the study of pilot fatigue in the R. A. F. Here it was found that the fivers did well after short vacations, but it was also shown that they improved and their attitude shifted appreciably if given the opportunity of taking a vacation, even though they decided against it and remained on duty. Mira was impressed by the frequency with which toxic, infectious, organic and emotional factors were all at work in the same individual at the same time. For this reason he advocates a twenty-four-hour period of observation for differential diagnosis without sedative, to avoid confusing the issues, and with liberal, almost routine use of lumbar punctures. In many cases, blood cells, or increased albumin was found. At least, this period gives some opportunity to evaluate the various factors for differential diagnosis and of sizing up the patient's attitudes and his manner of handling interpersonal relationships. Headache was usually looked upon as indicative of increased intracranial pressure. The majority of his cases were anxiety states. Malnutrition and critical deficiencies were important. In cases similar to the acute encephalopathies, but called malignant anxieties, in which the temperature rose suddenly, the pulse was rapid, the tongue blackish, the patients usually died. There were no features of delirium, however, and the spinal fluid was not remarkable. After death the brain showed swelling and hemorrhages in the few cases in which autopsies were done.

The anxieties responded well to sleep-treatment in a quiet place, a dark room, with good care by an efficient nurse. This usually lasted three to five days and deep narcosis was not necessary. This was followed by hyoscine hydrobromide during the recovery stages, along with the rather rapid rehabilitation and reactivation. Others are not so enthusiastic about need for such medication, preferring to rely on short-term psychotherapy.

Some of the interesting acute emotional upsets were called pure affective depressions, with apathy, lack of interest, fatigue, concentration difficulties, exhaustion and confusion. These responded rather dramatically to two to three shock-treatments, followed by direct psychotherapy and rapid reactivation.

Other psychoneurotic reactions were treated with an impressive, though not dogmatic, dynamic psychotherapy, dependent on the degree of rapport and satisfactory interpersonal relationships. Here treatment and a gradually increasing program of activity go hand-in-hand.

By this time many of you have probably already read the account of the experiences following the retreat from Dunkirk,6 which showed that men of reasonably sound personality may break if the strain is sufficiently severe. However, even this group revealed a high proportion of men who had suffered from nervous troubles in earlier life, and an excessive frequency of psychiatric disorder in near relatives. An accumulation of strains-bodily danger, continuous exertion, loss of sleep, insufficiency and irregularity of meals, recurrent bombardment, and the emotional turmoil coincidental with the sight of comrades and civilian refugees being killed-seemed to bring on the neurosis. An important etiological consideration is the fact that it was a retreat without possibility of retaliation. The clinical picture was surprisingly uniform. The whole attitude was one of tension with anxiety, or apathy. A coarse, irregular tremor of the hands was common, the deep reflexes were usually exaggerated, and there was often a resemblance to a Parkinsonian syndrome. Insomnia. terrifying dreams, a feeling of unrest, tendency to be startled by slight noise (especially that of an airplane) and retrograde amnesia were quite regularly seen. Adequate sleep, rest, food and fluids brought about striking improvement, to be sure, but how permanent and complete the recovery is still problematical. Indeed, much controversy rages, in general, over the permanence of recoveries. In this regard it is safe to say it seems certain that the Army and many individuals are satisfied if the complaints and troublesome symptoms can be relieved and the person is able to resume his former activities. More elegant, thoroughgoing therapeutic programs designed to work out the delicacies and intricacies of the psychopathological developments, through a far-reaching search and more complete understanding of the troublesome factors from the standpoint of the more individual personal development, must be left for a future time. This is not to say, or intimate in any way, that this is not desirable, but such a procedure does take more time and should be left to the experienced psychotherapist, and depends to a considerable extent on the patient's desire to seek additional understanding of himself and his problems in order to live more comfortably.

At any rate, it is estimated that 60-65 per cent of the disabled men will be able to return to full active duty after a psychoneurotic episode when treated in a combat zone; that 20-25 per cent will be able to return to somewhat limited duty; and that only about 10 per cent will have to be returned to civilian life. ¹⁴ If treated in a general hospital in the interior the results are not so good. About 15 per cent were much improved, 65 per cent improved, and in 20 per cent there was little change. ⁷

In conclusion, about the hospital set-up and personnel, much can be said in favor of good atmosphere and morale on the wards, for patients are much more apt to get well if encouraged by the improvement of others around them. The nurses should be well trained, kind and understanding, yet firm and efficient. The general attitude of the physician, his ability to show understanding, skill and knowledge, so as to promote good rapport and comfortably satisfactory interpersonal relationships, will favorably affect the patient. Fortunate indeed is the physician who, through the proper approach, is able to radiate enthusiasm and to inspire the patient with a sense of comfort and security. An air of confidence and understanding based on sound training and knowledge often reflects itself in the patient's attitude, even during an acutely upset period, and thus the task of managing the acute psychiatric problems become a much easier one.

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CLINIC

Conducted by

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TOXICOLOGY CLINIC

(Industrial poisoning excluded)

A strange defect in such great modern systems of internal medicine as the Oxford Loose-leaf Medicine, Tice's Practice of Medicine, etc., is that the supreme emergency of internal medicine is, by and large, omitted from discussion! This emergency is, I think, without doubt, acute chemical poisoning. In no other field are there so many cases in which prompt therapeutic action is life-saving, yet there is no adequate discussion of toxicology in general in any great system of medicine that I know of.

Excluding chronic industrial poisoning, the practitioner's contact with toxicology may be divided into poisoning due to drugs and chemicals normally toxic in the dosage ingested, and poisoning due to didosyncrasy to drugs taken in ordinary dosage. The latter are more frequent, the former more serious on an average.

A 26-year-old negro was under arsenical treatment for syphilis. He had no symptoms at the time treatment was started, no abnormal physical signs. He learned he had syphilis through a routine preëmployment blood test. On March 6th, 1940, he was started on weekly doses of neoarsphenamine, beginning with 0.3 Gm. March 13th he had 0.4 and March 27th 0.5 Gm. March 31st he appeared with a badly swollen face, t. 100.8, trace of albumin in urine, negative microscopically and for bile. He was given calcium gluconate intravenously. April 2nd t. 102, p. 128, and he felt weak. He was immediately hospitalized. The day before this. I had hunted all over the short street on which he said he lived, because he did not return for check-up, and no one seemed to have heard of him. I later learned that he had given me a fake address because he was actually living with an unmarried girl in the servants' quarters of a home in a leading residential section. He developed a typical exfoliative dermatitis. This cleared up completely under treatment in 10 days, but he complained of great pain in his knees, hips and ankles, without redness or swelling. After the complete disappearance of his eruption he developed a tremendous hyperpnea-not dyspnea, but a deep, tireless, rapid respiration suggestive of Kussmaul breathing. There was no glycosuria or ketosis. Alkalinization seemed to do no good. This was noted for 24 hours, and almost everyone on the hospital staff as well as outside consultants saw him. No one could explain the symptom. The following day at 6 a. m. he said he felt very weak and asked that I be called. A nurse started to the telephone, but before she got there, another nurse who was with the patient called and told her the patient seemed to be dead, as, indeed, he proved to be. I reported the case to the coroner, who ordered an autopsy This was done, and sections of various organsliver, spleen, kidneys, stomach, etc., were sent to the University of North Carolina, Duke and Wake Forest, respectively, each institution getting a piece from each organ to be investigated. The case seemed clinically so clearly due to neoarsphenamine poisoning that I signed the death certificate to that effect. However, the only report I could get from the various pathologists was chronic passive congestion. Apparently the patient died an acidotic metabolic death, but I still believe it was due to neoarsphenamine poisoning.

On Oct. 4th, 1928, I was asked to see a 45-yearold civil engineer at his home. The story was that 19 days before he had been found unconscious in a hotel in another city. One and a half years before this he had nervousness, dizziness and palpitation, and felt weak and unable to exert himself. Soon after this a physician in Raleigh found his blood pressure 172 and gave him potassium iodide, Epsom salts every other day, and a special diet. He kept this up a month or so, but had to travel and his pressure had come down to 150. For the past six months he had had some insomnia. He had been discharged from the army in 1918 "in perfect condition." At times he stayed awake all night. He said he had taken veronal once or twice a week during the past summer. Just before he was found unconscious, however, he had been taking more than usual due to some financial and family worries, and he found the veronal had been affecting his memory—he said he had been taking "a tablet or two" every night for several nights. Going to the city where he became unconscious, he had trouble keeping his car in the read. It was two days after this that he was found unconscious in the hotel. He remembered little further for a week, other than that he was taken to the hospital. He had knocked the furniture around and bruised himself some, but did not recall this. In the hospital he had hallucinations of hearing engineers wanting him in the next room, and he fought all night to get out of bed to get to them. The next day his mind began to clear up, and he had the feeling that he had been traveling and then stopped. He was moved from the hospital to his sister's home in another city, and then came to High Point. He had been very weak ever since his poisoning. His head swam, and he had pains in his left arm and right leg. One of his earliest symptoms, 11/2 years ago, had been a sound in his left ear like a distant steam fire-pump, though there was no throbbing synchronous with his pulse. He usually drank three or four coca-colas daily, and then would take vero-nal during the day to counteract the nervousness which he ascribed to the coca-cola, to which he believed himself very sensitive. He was also sensitive to alcohol, but took very little of that. He had had some recent headaches and sweating, also aching in right sacroillac region and numbness of palms and soles. He said his mother and wife had taken vero-nal and he thought it was not habit-forming. His mother had had two or three strokes. His urine in the hospital was said to contain albumin and casts.

On physical examination the patient showed were rather cyanotic. t. 98.6, p. 84, r. 22, b. p. nothing remarkable except as follows: His lips 146/92. Heart sounds weak and of poor quality. Otherwise heart negative. Sensation good. Hearing slightly impaired in left ear, but in general cranial nerves normal. Gait and station normal—no Romberg. Urine showed an extremely faint trace of albumin and a considerable number of pus cells, but was otherwise negative. Blood count essentially normal. He stated that he was told that when he was unconscious his face, lips and eyelids were swollen and his whole body somewhat swollen and sore.

From the history, a diagnosis of acute veronal poisoning 19 days before, plus some definite addiction to the drug, with a complicating acute nephritis, seemed justified. The nephritis had cleared up, but there was a mild urinary-tract infection, possibly associated with the fact that during his unconsciousness it had been necessary to catheterize him. The question of the danger of a barbiturate habit is interesting. Some would brand the Larbiturates as of almost diabolical origin; others, like Alvarez, would emphasize the almost perfect safety of them. The facts would seem to lie between the two extremes. By and large, I do not fear them very much and use them rather freely in practice. However, in certain special types of persons they are of special danger. Given a patient who very easily becomes addicted to anything, e.g., our patient seemed to become to coca-cola, the barbiturates may cause addiction. In my experience this is especially true when they have been substituted for some other severe addiction such as alcohol. However, despite the beliefs of others to the centrary, I find alcohol addiction much more frequent and more of a problem than barbiturate addiction, though I suspect that the use of both is so prevalent that one can hardly say that one is much more used than the other.

On May 10th, 1930, a negro janitor in an office building complained of strangury and hematuria.

He said he had had "stomach trouble" for a long time and had tried to relieve it the previous day by pouring out a couple of big spoonfuls of turpentine into some water and drinking it. The strangury and hematuria followed. His urine was grossly bloody and contained small clots. There was, of course, a heavy cloud of albumin and the sediment was loaded with red cells. There were no casts, and no more white cells than one would expect as consituents of the blood in the urine. Here, of course, we were dealing with acute turpentine tient also made an uneventful recovery on alkaline

On Feb. 22nd, 1918, a 38-year-old cabinet worker complained of frequent urination and vesical and rectal tenesmus. The only factors in his history were the presence of a bad cold for a week and the fact that a week before he drank a small amount of turpentine. He was tender over the bladder, but his urine was negative. Here we have a very mild case of turpentine poisoning. This pattient also made an uneventful recovery on alkaline diuretics.

On May 22nd, 1922, a 23-year-old barber complained of a peculiar attack the day before. He stated that he went into a pressing shop in the rear of the barber shop and thought he smelled gas, but could find none escaping. They used gas irons there to press clothes. Then he went to the toilet. After that his head got very full, a haze came before his eyes, he got nauseated, and then had a severe headache all afternoon. Never any similar attack before that one, and it had cleared up by the morning he came to see me. Physical examination was negative. This is a mild acute case of carbon monoxide poisoning, recovery spontaneous.

A little girl vomited a roundworm one morning. Her physician gave her santonin. Then she began to vomit continuously. Her physician asked me to see her as he was unable to go at the time. A simple enema got her quiet and she went to sleep. Apparently this was a case of sensitiveness to santonin.

On March 2nd, 1920, a telephone call came that a 17-year-old high-school girl had taken tincture of iodine by mistake for cascara. I directed her over the phone to put a handful of flour in a glass of water and drink it at once. Three minutes later I was in the house house and washed her stomach immediately. She had no ill effects. Here is a case where treatment over the phone was urgently indicated. The fact that she got starch so soon after taking the iodine was, I believe, a factor in preventing ill effects, for she had taken a teaspoonful. A case of this kind is a very real emergency, and many such cases should be given first-aid advice over the phone when an antidote is readily available.

On Oct. 10th, 1918, a man complained of a sore mouth. He had had a chancre six months before, but no treatment for a month. Then he had three mercury inunctions followed by 16 intramuscular injections of mercury. Then his teeth got loose and his gums and mouth sore, so he stopped treatment. (At this time it was almost impossible to get salvarsan, and if you could get it, the cost was almost prohibitive owing to the blockade of Germany, for it was then being made only in Germany. Few doctors had any, and \$100 a dose was often the price.) Patient still ran around with women and exposed himself to any further infections he might pick up, as well as exposing any non-syphilitic women whose favors he might obtain. He drank a quart of wine after his mouth healed up, and the trouble recurred. Then he took three tablets a day of some mercurial preparation by mouth for two weeks, but his mouth got worse aagin and he again stopped all treatment. His tongue was deeply fissured and ulcerated all over. His uvula was destroyed, too, but he said that had no connection with his present trouble, but occurred 15 years before from a disease the nature of which he could not remember. Physical examination was otherwise negative except for the scar of the chancre.

Here was a typical example of the hazards of the older methods of treating syphilis. Obviously the patient had a severe mercurial stomatitis. All mercurial treatment had to be stopped and reliance placed entirely on potassium iodide, as salvarsan was unobtainable and bismuth had not yet appeared as a therapeutic agent in syphilis.

On Sept. 9th, 1926, I was called to attend a 30year-old housewife. She stated that at 4 p. m. she put two bichloride of mercury tablets into a capsule after crushing them, and swallowed the capsule because she had nothing to live for. Then she went to the telephone and called a doctor who was unable to come. Then a maid in the house called me. I went at once, washed the patient's stomach immediately, putting in the white of one egg after one washing, then repeating the washing several times and finally leaving the white of another egg in the stomach before withdrawing the tube. During the lavage the patient vomited a good deal and finally vomited some rather bluish blood-tinged fluid, though the first washings were clear. She was then taken to the hospital and 10 c.c. of sodium thiosulfate solution given intravenously. She said that her husband was going with another woman. He said that she called him home from his work several times a day and that she would not let him go to work in his service station after supper. At times she would order him out of the house and tell him not to come back for the night. He would then go and stay with his brother, and she would then accuse him of staying with another woman.

Two months before, she got a revolver and fired it a number of times in the house, not injuring anyone. She had been taking Wampole's hypnobromic compound fairly constantly for four months, often getting as much as 24 grains of hydrated chloral at a dose of it. She kept getting a two-ounce bottle refilled. Patient stated that her husband had been drinking for two years, and that three weeks before she took the bichloride he was arrested for driving when drunk, and was with another woman, driving her car, at the time, and that she was arrested, too, and he went on her bond, and that was the thing that immediately started this trouble. After she did the shooting in her home, her husband fixed the pistol so it could not be fired. She tried to get it so it would fire, but couldn't. At the time she shot she was trying to shoot herself in the forehead, but the revolver jumped and she couldn't hit herself; that when her husband would be away over night, "the other woman" would telephone her and tell her where her husband had been. When I first arrived at the house she begged me to kill her with chloroform, and, on my declining to do so, assured me that she would make further attempts to kill herself.

There was considerable question in this case as to whether or not she had taken the bichloride. A Reinsch test for mercury in the urine was negative and she developed no albuminuria or other renal symptoms, and no other signs of poisoning. The whole thing may have been just a hysterical demonstration. However, in such cases one cannot afford to take risks-immediate treatment for the alleged poisoning should be given, and, incidentally, lavage with a garden-hose type of stomach tube often discourages subsequent similar hysterical outbreaks. There was, of course, a profound psychoneurotic background here, and also chronic chloralism. The bromide content of Wampole's hypnobromic compound is negligible, despite the misleading name, for the most potent ingredient was hydrated chloral, of which each ounce contained 96 grains, according to A. M. A.

On June 12th, 1930, a sales an's wife, 21, complaining of an eruption, said that, though never infected with syphilis, she had had three doses of "606" as a prophylactic, her third dose being four days before consulting me. Two days after this dose she had chills and fever. Then she took calomel. The next morning she took Epsom salts but vomited it. Then she took milk of magnesia and kept that down. Her bowels acted several times. The afternoon before consulting me she began to break out with an eruption. I was called to see her late at night. She had a blotchy urticaria all over her body, most marked at the site of injection on her right arm. A hypodermic of adrenalin caused

a temporary partial blanching of the eruption, but it soon returned. She said she had eaten honey for the first time in her life the night before. T. 99.4. No sore throat, though she had some sore posterior cervical glands. When she had chills and fever, her back hurt and she ached all over. The next day the rash was still blotchy, but more morbilliform than urticarial. The day after that the eruption was confluent, purplish. She made a satisfactory recovery after sodium thiosulfate treatment. Apparently this was an arsphenamine dermatitis of a non-exfoliative type.

On June 30th, 1942, a 45-year-old woman who worked in the sample room of a hosiery mill complained of quivering in her abdomen, frequency of urination and nausea. She had a long story of a dermatosis affecting her hands for a year, and treatment by several physicians, including two good dermatologists. However, the trouble kept recurring, so she went to a physician who prescribed Fowler's solution, beginning with three drogs at a dose and increasing the dosage steadily. He did not warn her of any special symptoms to look out for, she said, so she got the dose up to seven drops, and then developed an eruption all over her body along with abdominal cramps, nausea, vomiting and diarrhea. While her urine showed no detectable albumin, it contained countless hyalogranular casts. Obviously a case of arsenic poisoning. Moral: don't give Fowler's solution without warning the patient of the early toxic symptoms so he can stop before any significant damage has been done! She recovered on calcium gluconate.

On June 11th, 1927, a neurotic young woman stated that two days before she had taken a cold and sore throat. Her throat was somewhat congested and she had acute cervical adenitis, with temperature of 99.2. She was given a mixture of codeine, phenacetin and aspirin in capsules. Two days later she developed a generalized papular eruption, apparently a drug eruption, probably due to the phenacetin. I told her that this seemed to be the likely explanation, and stopped the capsules. Incidentally, she stopped me, getting quite infuriated and assuring me that under no circumstances would she ever require my services again. No amount of explanation of food and drug idiosyncrasies availed anything, and I did not see her professionally again.

In July, 1920, a 30-year-old mechanic had the worst case of bacillary dysentery I ever saw in an adult. He was losing a serious amount of blood in his stools. Stool cultures were made, but, as it looked as if he might die before the results of the cultures were known, polyvalent antidysenteric serum was given, 20 c.c. intravenously twice daily, till 100 c.c. had been given. A week later he devel-

oped severe serum sickness-urticaria with marked painful swelling of many joints. I gave him 10 minims of 1:1000 adrenalin subcutaneously. The eruption disappeared very quickly, but within a few minutes of administration of the adrenalin, he developed first an arhythmia, then total imperceptibility of the heart beat, and appeared to be dying. The reaction cleared up, however, in a few moments, as dramatically as it had appeared. Here is another strange thing. I had never been taught that adrenalin in such dosage could be dangerous. and on looking the subject up in my library, I could find nothing to suggest it. Yet, on consulting a number of other physicians, I found that all of them had experienced rather alarming reactions from adrenalin. Moral: give the first dose of adrenalin to any patient in small amount-not over 0.5 c.c. of 1:1000 solution. This should be emphasized in textbooks.

On February 24th, 1915, I was called to see a 20-year-old woman with acute fibrinous pleurisy. I strapped her chest, ordered heat, and, as she lived in the country, supplied her with some aspirin tablets. Shortly after leaving her, she developed intractable vomiting. Her father became alarmed, looked at the tablets, became still more alarmed, and celled me and asked if I had not given her the wrong medicine. I replied that I did not think so. He then asked if I had not said I had given her aspirin and I replied in the affirmative. "Well," he replied, "then I know you gave the wrong medicine, for these tablets have plainly printed on them, 'B-A-Y-E-R.'" Obviously, idiosyncrasy to aspirin. I once saw a man who had been told three times he had scarlet fever when in reality he had an aspirin rash.

On March 12th, 1938, a 44-year-old machine fixer in a hosiery mill who complained of pain in his right arm and shoulder presented a peculiar appearance. He sat with his eyes closed most of the time, but could open them-it was not myasthenia gravis. His face was rather bronzed and badly scarred with acne. His pupils were small, equal and reacted promptly to light. His gag reflex was gone, but saying "Ah" elevated his soft palate well. He had definite lateral nystagmus. His heart rate was 64. His urine showed a trace of albumin and a considerable number of hyalin casts. General neurologic findings were negative other than the drooping lids and absent gag reflex. It was learned that he had been taking elixir of alurate and elixir of bromides over a long period of time. The symptoms here were probably due to chronic poisoning by the combination of these two drugs.

On Sept. 12th, 1940, a 37-year-old bookkeeper stated that five days previously she had sniffed at a sample box of an extremely fine impalpable face powder and could hardly sleep that night. Her head, throat and chest hurt all night. The next morning she vomited-five times that day-remaining nauseated and vomiting again the day she consulted me. She kept working. She had a very severe headache after sniffing the powder. She brought the powder to the office. It was so fine and light that I suspected it contained stearate of zinc, and I believe that this was what caused her symptoms. Stearate of zinc is exceedingly irritating when insufflated, and if it reaches the lungs may cause pneumonia. A number of infants have died from such a pneumonia. Apparently the damage here was largely in the upper respiratory tract. especially in the sinuses. She was referred to a rhinologist for treatment of her sinuses.

One final point in closing. One of the things I think every physician should carry in his bag is a supply of a so-called "Universal Poison Antidote." In reality, there is no such thing. However, the mixture advocated is widely useful. It consists of equal parts of heavy magnesium oxide, tannic acid and charcoal. A handful can be thrown into a glass of water, and the suspension swallowed. The magnesia is an antidote for all strong mineral acids and is of some use in acute arsenic poisoning. Tannic acid is an alkaloidal antidote. Charcoal tends to delay the absorption of anything. There are a number of common poisons for which this "universal antidote" is useless, but, fortunately, for the ones most frequently encountered, household antidotes are almost always at hand. Chief among these are strong alkalies, for which vinegar is usually available; bichloride of mercury for which egg white may be effective; iodine, for which starch is the antidote. Also, every physician should carry in his bag a large stomach tube (and, if he does much pediatric work, a child's size Ewald tube) and an effective mouth gag that can force an unwilling mouth open and hold it open while lavage is being carried out. Only so can the physician be prepared to meet the most urgent emergencies of internal medicine.

CANCER-From P. 295

opment of Breast Cancer in Mice. Science, 93:527-528. 1941.

 BITTNER, J. J.: The Milk-Influence of Breast Tumors in Mice. Science, 95:462-463, 1942.

 DURAN-REYNALS, F: The Reciprocal Infection of Ducks and Chickens with Tumor-Inducing Viruses. Cancer Research, 2:343, 1942.

EFFICIENCY OF THE PLASTIC EAR MOLD (D. A. McCoy, Boston, in Dig. Ophthal. & Otolaryng., June).—Audiometric examination reveals that loud noises are reduced 30-40 decibels. vet the ordinary conversational tone is distinguished without trouble. The results in practical use have been satisfactory.

SURGICAL OBSERVATIONS

OF THE STATE DAVIS HOSPITAL Statesville

THE PREVALENCE OF GOITER IN THE SOUTH

GOITER is far more prevalent than anyone would suspect except those who make a practice of making careful examinations with this condition in mind.

Often an enlarged thyroid gland lies under the soft tissues, in such way as not to show on inspection, and palpation may not discover it unless great care is used an adenomatous enlargement may be overlooked.

Many goiters give few if any symptoms at first, although the enlargement may be definite and if properly examined easily discoverable.

There are many cases of goiter in which symptoms are not typical, that is, do not show rapid pulse, nervousness, tremors or exophthalmos, which are overlooked.

There are many cases of toxic goiter in which the adenomatous growth is not so very large and the symptoms are relatively mild. There may be mild tachycardia and nervousness and some of the other typical symptoms of hyperthyroidism may be present, but in such a mild form that they are overlooked or are obscured by some other condition.

In most of these cases only a very careful examination and study together with determination of the basal rate, which should be repeated if necessary, will make possible an accurate diagnosis. It is these early cases, however, in which a diagnosis is so important, before cardiac damage and damage to the nervous system have occurred.

The examination of the thyroid gland for enlargement should be done carefully and deliberately. With a patient on the examining table the head may be raised and the pillow slipped down under the shoulders and neck and the head lies along the surface of the table. This puts the head in the best position for palpation of the thyroid gland. Then, having the patient swallow several times the gland can be felt to move up and down during the act of swallowing. In this way the gland can usually be palpated very easily and, unless it is purely a substernal enlargement, we can usually tell the approximate size and shape of the gland.

In some cases x-ray examination is necessary to diagnose the substernal type of goiter.

The symptoms may be those of a decreased or an increased function of the thyroid gland.

Hypothyroidism may be severe enough to constitute myxedema, but many cases are so mild and the symptoms so obscure that they are overlooked

entirely. The basal rate is usually low.

In hyperthyroidism the first thing noticed in many cases is an increased nervousness. Occasionally very early there will be insomnia. The pulse rate is increased. There is usually a slight tremor of the hand, especially when the hand is held straight out and the fingers spread. The appetite may be increased, sweating excessive, palpitation frequent, walking up steps requires considerable effort.

As the disease progresses these symptoms increase in severity until we have a typical hyperthyroid patient with exophthalmos, auxious expression, rapid pulse, weakness and extreme nervousness, with a basal rate extremely high.

In the very early cases the basal rate is usually slightly increased in keeping with the symptoms but sometimes it is out of all proportion to the physical symptoms. It must be remembered, too, that sometimes the basal rate is lower than would be expected.

The diagnosis of early toxic goiter seldom presents any great difficulty. A careful history of the onset of the trouble and its development to date and palpation of the gland with the neck elevated will usually furnish the clues which will lead to the diagnosis, long before a typical picture of hyperthyroidism is developed. A basal metabolic test should also be made and this is most useful when three are done on three successive mornings.

If the diagnosis discloses a goiter, treatment should be instituted immediately. For the vast majority surgical treatment is advisable, which includes preoperative preparation for one to three weeks or even longer.

In the home preparation of a patient for a thyroidectomy ten drops of Lugol's solution in half a glass of cold, rich milk or water usually slows the pulse and counteracts the toxic effects, but if kept up for a long time we will have a thyroid condition which is worse than ever. So the patient must be informed that this treatment should only be kept up just to the point where the patient is ready for operation; then the thyroidectomy should be done, otherwise the patient may continue to use the iodine until it is no longer effective and a condition has been brought about which may result disastrously for the patient.

In the hospital we can reduce the basal rate more rapidly because the patient is available at all times for treatment, and there is less chance of the improvement consequent on the use of Lugol's solution causing the patient to decline operation.

By constantly keeping in mind the possibility of a disease of the thyroid gland, especially hyperthyroidism, many cases will be found which ordinarily would be overlooked until irreparable damage has been done to the heart and to the nervous system.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

LIBRARIES FOR HOSPITAL PATIENTS

THE AMERICAN LIBRARY ASSOCIATION, through its Executive Secretary, Mr. Carl H. Milam, called into assembly at the Drake Hotel in Chicago on May 14th a Joint Committee on Hospital Library Service. There were present at the meeting a representative of the American Medical Association; of the American Hospital Association; of the Medical Library Association, and of the Veterans Administration. Dr. McEachern was prevented by his duties in Washington from representing the American College of Surgeons. I had been designated by the President of the American Psychiatric Association to represent that organization.

The primal concern of the Committee was about the facilities for reading that are now provided for patients in the hospitals of this country—all of the hospitals, small and large, private and public. But the scope of the interest is so broad and so little information about the facilities is available that a preliminary survey will be a fundamental necessity. And even that initial procedure will constitute a considerable undertaking. The investigation of the library facilities provided for patients in hospitals will call for much more than a mere count of the books on the shelves and of the magazines on the reading tables.

Libraries intended to be helpful to patients must afford reading matter of recreational or of instructive value. The same printed page cannot make like appeal to the president of a university, to the adolescent boy, and to the woman emerging from melancholia and to the man become quiescent following an alcoholic delirium.

The purpose of the patients' library must be always psychotherapeutic. And such a purpose makes necessary a careful selection of the books for the library of a particular hospital. My home is near the Crippled Children's Hospital of Virginia; my work is in another hospital in which adults of various ages are being ministered to, not because of osseous or neurologic pathology, but because they have become out of tune with life. A library selected for one of those hospitals would not make appeal to the patients in the other hospital.

I once knew a good teacher who defined many things negatively. He always assured the class that a mine, for example, is not simply a hole in the ground. Somewhat in like manner a patients' library may be defined as not merely a collection of books. But if the library is to constitute one of the therapeutic facilities of the hospital, it must carry books selected for that reason, and out of that aggregation of reading material the trained librarian and the physician must see to it that the individual patient's reading needs are stimulated and satisfied.

A steadily increasing number of the American people are patients in hospitals. Many individuals, grown wearied by the days' labours and responsibilities, are glad enough, with slight excuse, to retire for a brief period within the hospital's walls, into detachment and inaccessibility.

No better opportunity could be afforded for companionship with congenial books. One of my patients read Beveridge's *Life of John Marshall—* a monumental four-volume opus—within three days. Once I was beguiled from the tedium of convalescence from an operation by communion with Carl Sandburg and Abraham Lincoln.

In the State Hospitals alone in the United States there are almost half a million patients, with an annual admission rate of more than 100,000. All the gradations of literacy are to be found in such a large number of patients. Many of them are, of course, illiterate, especially in the Southern States; but many of them are highly educated, and access to good books comforts them and keeps hope alive in their hearts.

In Virginia each State Hospital now has a library for patients, under the care of a person who has had some instruction and some experience in the care of a library. And the State Hospital System provides a trained librarian to exercise supervision over the institutional library facilities. And the biennial budget allocates a fund that is made use of in sustaining and in making additions to the libraries.

I believe the American Library Association has set going a movement that will be of far-reaching influence in the therapeutic facilities of our hospitals; for whatever encourages and inspires and comforts a patient is likely to possess remedial value.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

THE EYES AND DIET

"The fate of nations hangs upon their choice of food."-Savarin.

LIKEWISE the function of vision is predicated upon a well-balanced diet. As the present war progresses, and if it is prolonged, physicians may expect to find an increase in food deficiency diseases in the home front population due not only to a limitation of a well balanced diet, but in its prep-

aration, the tempo at which it is ingested, and the lack of proper assimilation due to the stress and nervous tension of the majority of the people under the influences of war. Already, because of these factors, it appears that the milder forms of diseases of the eyes due to dietary deficiency are becoming more prevalent. At any rate there is an increase in the number of patients seen who present a bizarre group of eye symptoms which must be so considered in the absence of other demonstrable causative agents. Cognizance is taken of the fact, and a differentiation made between these types of eye diseases and those of occupational and virus types.

A brief summary of the commoner eye conditions produced or aggravated by dietary deficiency includes various types of conjunctivitis, ulcerative and non-ulcerative blepharitis, styes, chalazia, eczema, calcareous deposits, xerosis, keratomalacia, several types of keratitis, scleritis and kerato-conjunctivitis, ulcers of the cornea, particularly the limbal type, certain types of optic neuritis, recurrent vitreous hemorrhages and opacities, chorioretinal changes and iritis; also photophobia, impairment of the tone of the extrinsic and intrinsic eye musculature producing symptoms of rapid fatigue of accommodation and convergence, and a probable increase in the incidence of myopia.

Study of these conditions from every angle leads to the conclusion that they may be due, not to the lack of any one specific vitamin, but to that of most of the essential vitamines which are contained in a well-balanced, well assimilated diet. The late Dr. Edward Jackson pointed out that "vision reflects and affects bodily conditions as a whole; its relationship to general health must make it of significance to the general practitioner and to the medical specialist in fields other than ophthalmology."

TUBERCULOSIS

J. DONNELLY, M. D., Editor, Charlotte, N. C.

WAR PLANNING FOR TUBERCULOSIS CONTROL

THE GRADUAL REDUCTION in the incidence of tuberculosis since World War I has been gratifying. However, it appears that this rate of reduction is not likely to continue, and that we are due for a rise in incidence instead. The privations of war are especially prone to cause increase in tuberculosis cases through reduction of the physical resistance of a people.

The necessity for post-war world planning for the control of the spread of tuberculosis is discussed by Dr. Chas. M. Hendricks in a recent issue of *Diseases of the Chest*, and a draft of a control program is offered by him for considerahion. The author quotes French records showing that before World War I in the present German-occupied France deaths from tuberculosis were 3,3 per 1,000; in 1916-1917, 5.75 per 1,000. Tuberculosis increased after World War I in the United States, and the situation became alarming in France and Germany. A partial survey in areas of Germany occupied by American troops was made under the direction of Colonel Bruns, M.C., U. S. A., and later limited surveys were made under the sponsorship of the Rockefeller Foundation and the American Red Cross.

It is estimated that there are now 10,000,000 tuberculosis cases in Europe alone, that the increase among children in Belgium is 80 per cent. The conditions in other Nazi-enslaved countries must be as bad or worse. A well-considered plan of procedure, it seems, should be worked out in advance of the cessation of hostilities if our government contemplates keeping our armed forces in many of these countries until orderly government has been established.

It is the opinion of Dr. Hendricks that the solution of all medical problems, especially tuberculosis, in the occupied countries should be under military control, by a medical personnel trained to meet all local medical problems. The information assembled could be made available to the agencies and foundations prepared to take over and complete the work. The medical personnel's responsibility will not be only the protection of our own troops, but also to prevent the disease as far as possible among the civilian population. A great deal of the necessary information is already in the hands of our medical and intelligence agencies, and more may be obtained from the Government-inexile in England, French authorities in North Africa and neutral sources.

Dr. Hendricks and his Committee on Military Affairs and Public Health of the American College of Chest Physicians, have prepared a draft of a proposed plan for a U. S. Military Tuberculosis Commission for work in the present occupied countries.

A Proposed Plan for a United States Military Tuberculosis Commission*

ORGANIZATION

- 1) The commission to consist of three or more medical officers who are highly qualified chest specialists known to have vision, imagination and executive ability.
- The senior member of the commission to act as director.

PURPOSES

1) To assemble and classify all obtainable information pertinent to the protection of our own

^{*}To be appointed by the Surgeon General, U. S. Army.

troops, and the study and control of tuberculosis in each country most likely to be occupied by units 3 of the U. S. Army.

2) To select for the approval and appointment by the Surgeon General, medical personnel to constitute "Tuberculosis Control Teams."

3) To administer the training of control teams utilizing all assembled information in order that the control teams may accomplish their mission in each country when occupied.

Type of INFORMATION TO BE ASSEMBLED

 A comprehensive study of the geography of each country.

2) Population of each country, city and sub-

division thereof.

- A study of the public health laws of each country which were in force at the time of enemy occupation.
- 4) A study of all medical organizations and anti-tuberculosis societies in each country.

5) An attempt to obtain the rosters of each of

these organizations.

- 6) To learn (a) the number and type of hospitals and sanatoria, (2) the amount of x-ray equipment available in each city and subdivision of each country; (c) the availability of x-ray films, developing solutions and information concerning the manufacture thereof; (d) the names of the leading chest specialists in each city and subdivision of each country; (e) information concerning the death rate of cities and subdivisions of each country at the time of enemy occupation; (f) the approximate death rate in each country at present; (g) information concerning educational institutions, schools, colleges, public and private; (h) concerning educational leaders in each city and subdivision of each country.
- To assemble and classify all possible information concerning the above-mentioned points for each enemy country.

PERSONNEL OF CONTROL TEAMS

 The amount of personnel required for each team would be determined by the size and population of the country concerned.

2) The officer personnel for each team should be not less than three medical officers who are qualified chest specialists, and two or more officers in the nurses' corps who have had special training in tuberculosis.

 Enlisted personnel should be technicians and at least 50 per cent should have a working knowledge of the language of the country to which the team would be assigned.

TRAINING OF CONTROL TEAMS

The personnel of each team could be assembled at the most convenient point, and members of the commission instruct the team along the lines laid down by the commission on the basis of assembled information.

MISSION OF CONTROL TEAMS

1) To protect our own troops by utilizing all information as to the prevalence of tuberculosis among the civil population in certain areas.

To keep in close contact with the medical wards in our hospitals in each army of occupation.

- To utilize the local physicians, anti-tuberculosis societies and school authorities of each country in making tuberculosis surveys of the civilian population.
- 4) To encourage the local authorities to make surveys in their own way, so long as their way is efficient and properly carried out.
- 5) To furnish school and public health authorities with such educational printed matter concerning the control of tuberculosis as seems best to fit the situation in each country, the printed matter, to be in the language of the country.
- 6) To exercise patience and understanding, and promote good will by encouraging and guiding the local authorities in the anti-tuberculosis program of their country, surveys and control programs to be completed as rapidly as possible.
- To assist in the reorganization of the antituberculosis societies.
- 8) To insist upon the isolation and proper treatment of all open cases.
- To assemble complete information concerning conditions encountered regarding tuberculosis, its control and treatment.
 - 10) To keep complete and accurate records.
- 11) To make such reports as may be required by the commission.

EQUIPMENT OF CONTROL TEAMS

- 1. X-ray Equipment: The number and type of machines required per team could be determined from the assembled information as to the number of x-ray machines and supplies available in each country, the number of machines anticipated to be with our own medical installations and the population of the specific country.
- Each control team should be equipped with sufficient office material to keep records, issue mimeographed instructions, etc.

ADMINISTRATION OF CONTROL TEAMS

1) For administrative purposes, tuberculosis control teams would be attached to some unit of the medical service of our armed forces occupying a particular country.

PERSISTENT HICCOUGH

(Hamilton Bailey, in The Practitioner (Eng.), March)

Efficient administration of carbon dioxide brings some relief to all patients with hiccough, controlling or curing within 48 hours in 50-60 per cent of cases. If definite improvement is not apparent in 36 hours after institution of CO₂ therapy injection of novocain into the left phrenic

nerve will alleviate persistent hiccough immediately in some instances, gradually in others.

Since hiccough is often an early sign of acute gastric dilatation stomach lavage should be done. The chest should be examined for evidence of pleurisy. Persistent hiccough may also be an indication of uremia, hence estimation of urinary output and of the blood-urea should be done.

To administer CO₂ in sufficient concentration to be effective (5%) a mask must be used.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

SYMPTOMS RECURRING AFTER TRANS-URETHRAL PROSTATECTOMY

ONLY A SMALL PERCENTAGE of patients experience distressing symptoms following transurethral prostatectomy, and these usually yield readily to treatment.

The type or quality of surgery may be responsible for narrowing of the urinary stream by, for example, inadequate removal of tissue or trauma at the time of operation. The passage of a sound may relieve distress, and for constriction in the fossa navicularis, just back of the meatus, stricture dilatation may help.

Danger of massive bleeding after fourteen days in hospital is remote and other bleeding is probably not serious. Lavage of the bladder may be used, or a catheter may be left in place for twenty-four to forty-eight hours. Hemorrhage which continues may be due to inadequate removal of tissue, and cystoscopic examination is indicated.

Incontinence is a rare complication and again may be attributed to faulty surgery. Where the sphincteric action has been destroyed by invasion of the muscle by the tumor, a penile clamp, satisfactorily adjusted, is helpful.

Recurrence of original symptoms may be due to continued infection caused by insufficient removal of tissue. Residual urine may be so caused. Diverticulum or atonicity of the bladder may be responsible for residual urine immediately after operation.

At the Mayo Clinic it has been found that a large group of patients who have had diverticula of the bladder have undergone transurethral resection in the last few years. In most cases the treatment was effective and the diverticulum has "shrunk to an imperceptible lesion if the tissue at the vesical neck was adequately resected." Daily catheterization may be needed for a period until vesical tone is restored.

"Dysectasia and spasm of the vesical neck and reformation of scar tissue may occur in the fibrotic type of prostate after transurethral operation. If this does take place, dilatation of the posterior urethra with a Kollman dilator may be useful."

Infection may cause burning, nocturia, frequency, urethral distress, and pain in the perineum or on voiding.

No vigorous effort to banish infection should be attempted under four to six weeks after the operation, though where dysuria is great lavage of the bladder and chemotherapy by mouth may be used to advantage. Sulfonamides should be used cautiously, not exceeding 45 grains daily for one week. "Again the inadequate removal of tissue may produce continued irritation in the posterior urethra and if lavage of the bladder, posterior urethral instillations, chemotherapy and sounds do not relieve this symptom, cystoscopic examination should be advised."

Continued irritation in the posterior urethra may be another result of inadequate removal of tissue. Lavage of the bladder, chemotherapy, posterior urethral instillation, or sounds are indicated for relief. Removal of tissue left in the bladder may effect rapid cure.

Nocturia and frequent urination caused by large intake of fluid may be met by restriction of fluid to eight glasses in twenty-four hours, and allowing little of this late in the day. Röntgen treatment may relieve perineal distress.

Dysuria may result from resection with the electric loop if fulguration has been too deep. Medication and irrigation will promote comfort but usually only time will give complete relief. Prostatic massage is indicated in few cases.

Sexual disturbances are rare. The most frequent is the inability to ejaculate, as, due to the opening of the vesical neck at operation, it is easier for the semen to pass into the bladder than into the urethra. Reassurance is all that is necessary.

Complications following transurethral prostatectomy may include: epididymitis, prostatic abscesses (rare), thrombophlebtiis of the legs (to be treated as usual), and spinal-puncture headaches which disappear after a few days of rest. Epididymitis can usually be prevented by instructing the patient "not to let his bladder get too full, not to strain, and not to do any heavy work for three or four weeks after operation." The recommended treatment most satisfactory to the patient for the multitudinous complaints, rarely severe, is mainly reassurance, chemotherapy, sounds and lavage.

Sulfonamides.—It has been deemed advisable (Peterson & Finland, in Am. Jr. M. Sc., Oct.) to diminish the risk of nausea by administration after a meal, rather than to obtain a problematically more rapid absorption by giving the drug on an empty stomach. When very rapid absorption is wanted, the sodium salt of sulfadiazine, sulfathiazole, or sulfapyridine may well be given on an empty stomach. It is better to inject it intravenously or intramuscularly in very acute conditions.

^{1.} Cook, E. N.: Causes and Treatment of Symptoms Recurring After Transurcthral Prostatectomy. Report Staff Meetings Mayo Clinic, May 10th.

INSURANCE MEDICINE

H. F. STARR, M.D., Editor, Greensboro, N. C.

SPECULATIVE HAZARD IN LIFE INSURANCE

THERE is a speculative hazard in life insurance when a person purchases more insurance than his financial position or income warrants, or where the amount payable at death creates an insurance estate larger than the reasonable financial value of the life insured, or where the designated beneficiary has insufficient or no insurable interest in the continuation of the life of the insured.

The speculative hazard has long been recognized by underwriters and before present-day rationing life insurance was one commodity which could not be purchased without limit. Not all speculative cases, however, involve large amounts of insurance. A study of mortality experience indicates that the maximum amount of life insurance on an individual should bear a certain relationship to income. The following table, based on mortality experience, indicates the maximum number of times the annual income it is safe for a company to issue personal insurance in the different age and income groups.

PERSONAL INSURANCE

Total insurance in excess of the following number of times total income should be regarded as speculative.

		TOTAL INCOME			
		Under \$2,500 \$2,500 to \$5,000		Over \$5,000	
		per annum	per annum	per annum	
		No. of	No. of	No. of	
Age		times income	times income	times income	
Under	25 .	9	10-11	12	
26-35		8	9-10	11	
36-40		7	8-9	10	
41-45		6	7-8	9	
46-50		5	6-7	8	
51-55		4	5-6	7	
56-60		3	4	5	
51 and	over	2	21/2-3	3-4	

The total insurance includes the amount in force and applied for in all companies. The amount of accident insurance and double accident indemnity in force or applied for must be taken into consideration.

BUSINESS INSURANCE

It is generally accepted among underwriters that business insurance should be issued only to valuable and key employees whose death would cause a financial loss to the employer. The amount of insurance should not exceed five times the annual salary.

SELECTION IN SUSPECTED SPECULATION

Where the total amount of insurance carried is greatly in excess of these limits, the speculative

hazard is sufficient to cause declination; if slightly in excess, the risk is borderline and should be thoroughly investigated and accepted only with caution.

Applicants who exceed the limits of this table are not all undesirable risks. Some of them will live out a normal expectancy of life, yet we know that the group as a whole will show an increased death rate. As yet we are not able to sift out and weigh the multitude of facts and circumstances involved in each case and to select with any degree of certainty the minority of individuals in the group who will prove to be standard risks. Here, as in other impairments, we must rely for safety upon the proper selection and rating of large homogeneous groups.

There are certain unfavorable features in cases which are doubly important when there is a border-line speculative hazard present. If the business was originated by an unreliable or unknown agent, or if the application is for a large amount and the agent generally writes applications for moderate amounts only, or if application was made in a locality different from that in which the applicant resides, or if the applicant has recently been rated or declined by another company, further suspicion of the case is justified. Perhaps the worst experience of all occurs when the applicant is examined by an unauthorized examiner or in another town or city. The insurable interest of the beneficiary should be evident in all cases.

The question of suicide must be kept in mind in borderline speculative cases. Not only the likelihood of the applicant contemplating suicide at the time of the application must be considered, but also that at some future time he may be tempted to commit suicide if he has an excessive amount of insurance which may seem to be a solution to his problems. Here temperament, history of nervous breakdown, race, occupation, habits and morals are especially important.

Persons who conceal impairments when applying for life insurance are prone to apply for excessive amounts. The most thorough investigation on the part of both the medical examiner and the Home Office underwriter is required to discover the facts in these cases. Some applicants, usually over age 45, without actual disease or serious symptoms begin to feel and know before their physicians are aware of it that they are deteriorating physically. They suddenly become interested in life insurance and begin to load up. Others develop a late interest in health matters and their own physical condition. Follow-up of cases by one company in which there is a history of routine physical examination with no unfavorable findings reveals that nearly 90 per cent really consulted the physician for some symptom or illness.

Fraud rings have been discovered from time to time. They usually operate in industrial and foreign settlements in large cities. One method is to insure a person with a serious condition and substitute a healthy person for the examination. Another method which was discovered in use in recent years was to insure a little-known inmate of a cheap boarding house, get him dead drunk, leave him out in winter weather until the exposure is sufficient to cause him to develop pneumonia and die, either in a charity hospital or under the care of a reputable physician in private practice. Sometimes both the agent and the medical examiner are involved. Small amounts are sometimes placed in a number of companies. The spelling of the name might be altered and several different given names may be used. Attempt at actual and deliberate fraud in getting life insurance occurs in a very small percentage of cases, yet it is frequent enough to be taken into account in the daily routine selection of cases. The dependability of the agent and the examiner is the most important factor in guarding against it.

HISTORIC MEDICINE

THE CHRONOMETRY OF LIFE

FIFTY YEARS AGO a learned member of the Medical Society of the State of North Carolina undertook¹ to account for the remarkable records as to longevity of Adam and certain of his male descendants for several generations. (Apparently the women were not thought of enough importance to have their ages at death recorded.)

Even though the application of Dr. Ivey's method would have some beget children while mere children themselves, it is not without ingenuity or interest.

I have as firm a belief in the truth of the Bible as anyone and I don't want to rudely shake the faith of anybody, but there are many things in the Bible that cannot be taken literally.

Anatomically and physiologically we are the descendants of Adam. Why should we be like him in every other particular, and totally unlike him as respects the duration of life. I argue that he was constructed as we are; that he lived under the same sun and breathed the same air as we; that he worked for a living as we do and that he died at the age of 77½ years, a little above the recognized limit of three score years and ten as since laid down by Moses.

From the time of Adam down to Noah the time of life was in round numbers 900 years. The Hebrew word translated year literally means iteration

1. W. P. Ivev. M.D., Lenoir, in *Trans. Med. Soc. N. C.*, 1896.

or recurring periods. There was not sufficient astronomical knowledge at that early day to know a year by the revolution of the earth around the sun, but the time from one full moon to the next could be seen by all, so a year of time meant a month and not 365 days. Dividing the average age by 12 makes the ages of the early Bible people about 75 years. The calculation of a year by moons is still in use among some semibarbarous nations. It is but natural that the Hebrew's computation should resemble other neighboring nations of antiquity, and some Greek authors say that this was the method of the Egyptians, with whom the Hebrews were so closely connected. Diodorus and Plutarch confirm this.

From the time of Shem to Terah the father of Abraham the age of the people was no longer 900 years, but 450. Now this was a sudden shortening of the period of life or a change in the method of counting a year took place at that time, which was probably the case. A year now is composed of two moons instead of one and by dividing 450 by six it is again brought down to 75. In Genesis, the 8th chapter and 2nd verse, we find the words: "While the earth remaineth, seed time and harvest, heat and cold, summer and winter shall change not." There were six seasons of two months each.

In the last period from Abraham to Moses the age of the people was again reduced from 450 years to 150 years, which must be divided by two to bring it into conformity with the preceding ages and those of the present. This is founded on the double rainy season in warm countries. The ancient Germans reckoned a year by two seasons of six months each, the early Greeks used the same measure and to this day the Icelanders do the same. There is apparently some discrepancy in the ages of the last one or two generations of each of these three periods, as the method of computing a year changed during their lives and their individual ages must be computed in part by both methods.

As apple trees bore apples in the Garden of Eden and will continue to bear no other kind of fruit as long as the earth remains, so this time rate of life in all its phases has come down to us through 6000 years and will go on the same till life temporal is merged into life eternal.

If all of us physicians should fall in line with Brown-Sequard and should search day and night for the elixir of life we would all reach the end of life with no other reward than that of folly.

I cannot tell you how to live 200 years. I wish I could. Nor can I tell you how to reach the age of 100 years, the possible limit, nor even 70 years, the commonly recognized limit. There is no royal road to the attainment of old age.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

ENDOMETRIOSIS OF THE SIGMOID

SINCE Sampson in 1921 first recognized and described endometriosis and since gynecologists have learned to recognize its varied pelvic manifestations 15 per cent of all women are now believed at some time during their active menstrual life to develop some form of the disease. Twenty-five per cent of these—2 to 4 per cent of all women—develop during their menstrual life endometrial lesions of the rectum, the sigmoid or the recto-vaginal septum.

It is important that endometriosis of the large bowel be distinguished from a malignant growth, which it closely simulates. The clinical course of the two conditions untreated may or may not differ widely. An untreated malignant tumor always kills the patient; untreated endometriosis may by ob-

struction also kill the patient.

Treatment is so radically different in the two conditions that to be intelligently applied it must be based upon proper understanding and accurate diagnosis. A malignant tumor of the large bowel can be cured only by wide radical removal, whereas endometrial lesions, activated by ovarian secretion, spontaneously disappear after the menopause and are promptly cured by castration whether from surgery or from radiation.

At operation with the abdomen open cancer and endometriosis of the large bowel may be grossly identical so that differentiation can be made only by biopsy. The finding of endometriosis elsewhere in the pelvis is presumptive, but not positive, evidence that the bowel lesion is not cancer. If the lumen of the intestine is opened in obtaining a specimen for biopsy the procedure is not without danger.

Cancer begins in the mucosa with early ulceration. Endometriosis begins as an intramural lesion which does not ulcerate and does not bleed into the lumen of the bowel. Differentiation can usually be made by proctoscopic examination or by x-ray study after use of a barium enema.

Recently a spinster, aged 45, while having both ovaries and the uterus removed for endometriosis, was at operation found to have an indurated, constricting mass in the wall of the sigmoid just above the peritoneal reflexion. She was in no condition to stand bowel resection after hysterectomy so the abdomen was closed with the sigmoid lesion left undisturbed. Because she had previously had several rectal polyps removed we could not take a chance on the bowel lesion not being malignant. After three weeks the abdomen was reopened, the diseased segment removed and end-to-end anasto-

mosis done. Fortunately she recovered. The pathologist found the lesion to be endometriosis. Because biopsy had not been done at the first operation, the patient had been needlessly subjected to the hazard of a second major procedure. She would have been well after removal of the ovaries.

PEDIATRICS

EPIDEMIC DIARRHEA OF THE NEWBORN

MUCH ARE WE TOLD of the greater safety of having women go to hospitals to be delivered. Now and then some one speaks out on the greater danger. Here is set down the wise comment of the veteran St. Louis pediatrician, Zahorsky, on an article¹ from Canada.

As a result of the growing custom of expectant mothers to enter a hospital for obstetric service the transmission of pathogenic bacteria from one infant to another has become less restrained and epidemics are bound to occur.

Not very well known is the specific diarrhea of the newborn infant, a disease having some singular characters which separate it from the infectious diarrhea most prevalent during the summer. Sooner or later every hospital will have the sad experience of losing several newborn infants from this disease.

The etiology is still obscure. In many ways it suggests the symptoms of food poisoning and, yet, many cases occur in the "breast-fed." Unfortunately, in most hospitals infants receive a bottle at night. There is no doubt that the disease is conveyed from one infant to another. There is no substantial proof that a virus is the primary cause.

The author reporting on four epidemics of this disease concludes that hemolytic colon organisms show a much greater incidence in infants with epidemic diarrhea than in well infants in the same nursery.

The disease resembles an intoxication rather than an infection. Even boiled toxins may produce symptoms.

May not eve nevaporated milk sometimes contain a bacterial toxin from which the susceptible newborn infant may develop a diarrhea? The final conclusion should be memorized by every practitioner: "Close association between complementary feedings and the bathing and changing operations of the infants is a potent source in the spread of the infection."

FOREIGN BODIES FROM THE EYELIDS.—The lid being seized at its angles between the thumb and forefinger of each hand, is to be gently drawn forward and downward, as far as possible, over the lower lid, and retained there

^{1.} W. B. McClure, Toronto, in Jl. Pediatrics, Jan.

for a minute. On allowing the upper lid to return to its normal position the flow of tears will carry off the foreign body, which will usually be found on the lower lid, or one of the lashes, or on the cheek.—Charleston Med. II., 1859.

OBSTETRICS

HENRY J. LANGSTON, M.D., Editor, Danville, Va.

KEEPING THE NORMAL OBSTETRICAL CASE NORMAL

Most obstetrical cases are normal at the start but a case may become abnormal from lack of proper management, or despite the best of care. This theme as well developed by a Jersey obstetrician1 serves as the basis of these remarks. Prenatal care has done much to improve obstetrics. In giving preventive prenatal care the patient sees her physician at regular intervals and he-records her weight, blood pressure, the results of urinalysis and blood tests, etc. She is told how to prevent anemia; before her b. p. begins to rise she is told what to do to prevent it. She is told how to prevent overweight by diet and exercise. If she is shown to have tuberculosis, heart disease, diabetes, nephritis or hypertension she receives treatment accordingly.

If there is a history of abortion without cause and the Wassermann reaction is positive, proper treatment is given. If negative, ½ grain of protoiodide of mercury b.i.d. throughout pregnancy has proved helpful in many cases. If much nausea is present, treatment will have to be delayed until after the third month. A patient with a history of stillbirth without a difficult labor or other complication, and with Wassermann negative, should receive the same treatment. When a history of abortion or stillbirth is known before pregnancy occurs, the patient should take ¾ grain protoiodide of mercury daily for one or two months before becoming pregnant again. The results are gratifying. Some physicians give iodine alone.

The regulation of weight is very important. The writer found in 1500 of his cases that in the group gaining over 20 pounds there were *five times as many* cases of toxemia as in the group gaining less.

It is not always possible to regulate the size of the infant by diet. One reason for keeping the weight down is to prevent storing useless fat in the pelvic tissues which partially obstructs the passage.

The nausea of pregnancy has been largely prevented by limiting exercise and giving carbohydrate food at frequent intervals for the first three months. Lutein and suprarenal cortex have helped.

Occasionally glucose by vein. The severity of the case often can be determined by the amount of acetone and diacetic acid in the urine.

Toxemia of later pregnancy requires strict treatment at once, with close supervision. Diastolic pressure is of more significance than systolic, and when this reaches 100 it means danger. If, after prompt treatment this does not drop, induction of labor should be considered even though the fetus is not viable. If the patient improves and the pregnancy is eight months or more, induction of labor should be considered before she again gets worse. Substernal pain is a sign of impending danger.

Hemoglobin tests should be made at least every other month. With a simple preparation of iron the patient can usually be carried through her pregnancy with a hemoglobin of not less than 70 per cent. In the third trimester the hemoglobin should rise.

Pelvic measurements, not an absolute guide, are of great importance in some cases. Exercise should be varied, increasing gradually as time goes on. Walking in the sunshine does more to improve the metabolism than anything else. Automobiling is contraindicated except for short distances. Regular rest should be taken daily and frequent warm baths. Frequent brushing of teeth and rinsing with a mouth wash are indicated. Unless blood calcium is low it is not necessary to take it for the teeth. Bowels should be kept regular. If there is nausea, an enema is best. Some patients require an abdominal support, others do not. The nipples should be bathed frequently with borax solution in 50 per cent alcohol followed by cocoa butter or albolene.

Analgesics should be used in labor, but not in larger doses than necessary. Chloroform is one of the best anesthetics for the average labor case. It can be easily regulated and the infants are less apt to be affected. Placental delivery should not be hurried. Retained membranes will come away themselves. Careful examination for lacerations in the vaginal wall and in the perineum and proper repair are to be made in every case.

The advice is against kneading the fundus, but "don't fail to hold the fundus for at least ½ hour, and thus help to prevent hemorrhage" and give pituitary extract after the birth of the baby and ergotrate after expulsion of the placenta. After care requires scrupulous cleanliness. Change perineal dressing frequently, using sterile precautions. The bladder should not become distended and if ordinary procedures do not work, catheterize. Bathe the nipples before an after each nursing; if necessary to pump the breasts, use the electric pump making no pressure on them.

^{1.} A. W. Bingham, M.D., East Orange, in *H. Med. Soc. N* 1., 4 100, 1943.

The diet is: liquid on labor day, soft on first day post partum, light on second, full on third day. Patient sits up on fifth day; out of bed tenth, walks on eleventh, is discharged on twelfth or thirteenth. Patient should be turned on abdomen for 20 minutes twice daily on and after the fifth day.

Give enema on second day. Give mineral oil one ounce every night and an enema when necessary.

Douches are contraindicated even if temperature is up.

To assure the improvement of obstetrics each physician must use his best skill and judgment on even the simplest case and make every effort to keep the normal case normal.

This article is written by a specialist in obstetrics and gynecology who has the gumption to know that in many sections most labors are conducted, and conducted well, in the home; and to write an article helpful to the doctors who attend such labors.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M. D., Editor, Greenville, S. C.

BLOOD-PRESSURE "CONTROL" BY DRUGS IN ESSENTIAL HYPERTENSION

ALL OF US were taught in medical college that to see a great list of drugs offered as useful in any condition argued strongly that none could be relied on

In some quarters the blood-pressure apparatus is the chief diagnostic instrument. And here comes to mind J. C. da Costa's, "Diagnosis by intuition is a rapid method of arriving at a wrong conclusion."

A carefully controlled research, recently made, is epitomized.

It has been estimated that a fourth of all deaths of persons more than 50 years of age are directly attributable to hypertension. The mortality rate from hypertension has not been reduced significantly over a period of many years.

Patients 38-70 were selected from the inmates of a state hospital for the insane. Some institutional employees were included as normal controls. No examples of malignant hypertension, or hypertension group 4, were included. The total group of more than 60 men was broken up into subgroups of from five to 11 members. All patients were subjected to minimal physical, laboratory and roentgenologic examinations to exclude those who did not have essential hypertension. Each member of each subgroup received one form of treatment.

1. J. S. Kapernick, in Proc. Staff Meetings Mayo Clinic, June 16th.

Each drug was given in the dosage recommended by the manufacturer or in a dosage exceeding the suggested optimum. None of the patients in the study was receiving any other medicine which might conceivably affect the level of blood pressure.

Determinations of blood pressure were made at least t. i. d. The maximal and minimal systolic and diastolic pressures were recorded. A period of seven to 10 days in which medicaments were not given was devoted to determining the values for blood pressure and its fluuctuations before any type of treatment was employed. The period of treatment lasted through four full weeks. In almost all cases a further observational period of seven to 10 days followed discontinuance of all treatment.

The drugs used included at least one representative of each of several much favored types used in attempts at regulation of blood pressure. Potassium thiocyanate was omitted because of the technical difficulties of its use in such a study and because most doctors are in agreement as to the status of this drug. The methylated xanthine derivatives were well represented in this study. In this group, trials were made in which theobromine, a prepared combination of theobromine and phenobarbital sodium (theominal), a proprietary arterial antispasmodic agent (iocaprol) and theophylline with ethyl diamine (aminophylline) were employed. Erythrol tetranitrate was chosen as a representative of the nitrate and nitrite groups of drugs. Phenobarbital, in varying dosages, was used alone. A proprietary hypotensive agent (hepvisc), and a proprietary vasodilator (allimin) completed the list of drugs used.

No significant hypotensive effect was seen when the drugs were administered in the dosages mentioned.

On the basis of this study, it may be reasonably concluded that the drugs referred to herein, when administered continuously in optimal dosage for periods of four weeks, do not possess any significant effect on the blood pressure of hypertensive patients. Furthermore, the effectiveness of chemically similar drugs, of which the chosen preparations may be considered representative samples, seems open to question.

The conclusion seems well justified. We must realize more fully that we can do most for our hypertensive patients by reducing worry and work, increasing time on the back, and lessening the caloric intake. Also, it is well to remember that many men and women with essential hypertension live a long time without, or in spite of, treatment.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

BILIARY COLIC

Means of obtaining prompt and certain relief of biliary colic is a practical problem for any physician. An antispasmodic which could be used with morphine to consistently relax the musculature of the gallbladder, the cystic duct or the sphincter at the lower end of the common bile duct is being sought by Best and Barr, of Omaha.1

Morphine produces contracture of the sphincter area and consequent increased intraductal pressure, but relieves pain by its depressing action on the higher nerve centers. Atropine relaxes the wall of the gallbladder but only irregularly affects the sphincter mechanism, therefore analgesic results from its use are not dependable. Nitroglycerin, sublingually, usually relaxes the sphincter muscles, thereby decreasing intraductal pressure and relieving pain.

In a patient with an intact gallbladder, relief of biliary colic can be obtained by hypodermic administration of morphine and atropine, followed by atropine with nitroglycerin every four hours, with morphine given subsequently only as needed. This regimen may be continued for several days if necessary. The morphine-nitroglycerin combination is most apt to give relief to patients in whom the gallbladder has been removed; nitroglycerin is then alternated with atropine every four hours for several days with the addition of morphine as necessary.

t. Best, R.R., and Barr, J. H.: Morphine and Antispasmodics in Biliary Colic. Ann. Surg., 117: 207-214, 1943.

THE MANAGEMENT OF THREATENED ABORTION

WE NEED frequently to have our knowledge brought up to now on the recognition and management of all common conditions. Threatened or actual abortion is one of these condititons, and an article1 on that subject brings the lesson.

In cases where bleeding and cramping occur in a woman known or presumed to be pregnant, bed rest should be instituted at once; a careful history should then be taken and physical examination made—rectal when vaginal is contraindicated. A specimen of urine is to be taken for the pregnancy test, if there is doubt as to pregnancy or to ascertain if the embryo is living; this test must be interpreted guardedly, as it may be temporarily negative even with a living embryo. If bleeding is so severe as to threaten the life of the mother, even

tocic principle of the posterior pituitary, and ergotrate. As a rule 1 c.c. of pituitrin given intramuscularly with 1/320 grain ergotrate intravenously, followed by the oral administration of ergotrate (1/320 grain every 4-6 hours) controls the bleeding and results in spontaneous evacuation of the uterus in 24-48 hours. If this produces excessive pain, morphine is to be given. Only in an occasional case is operative evacuation of the uterus necessary. Blood transfusion should be given if there is excessive loss of blood or signs of infection. If evacuation of the uterus is not complete, continuation of ergotrate with the administration of an estrogen will usually result in complete evacuation; if some bleeding, with or without cramping, continues for more than 24 hours after evacuation of a major portion of the products of conception, operative interference may be indicated, if there is no evidence of infection. If there are fever, rapid pulse and leukocytosis, these are indications of infection of the birth canal. Operative interference is contraindicated unless bleeding cannot be controlled by conservative measures; if operative evacuation of the uterus becomes imperative in these cases it should be done as gently and as rapidly as possible, and a uterine pack employed. Infection should be combatted by the administration of sulfonamides and blood transfusions; and the uterine pack removed in 12-24 hours. In some cases of threatened and habitual abortion there is an estrogen, rather than a progesterone, deficiency, and the administration of estrogen is more effective in preventing abortion. The hor-

without severe cramping, evacuation of the uterus

is necessary. This can usually be accomplished by

the administration of pitocin-or some other oxy-

mone treatment should be controlled by the vaginal smear as a diagnostic measure and as an accurate method for determination of dosage.

PUERPERAL THROMBOPHLEBITIS AND PHLEGMASIA ALBA DOLENS

(J. G. Crotty, Cincinnati, in Cin. Jl. of Med., June)

These complications are particularly common after caesarean section, and they tend to recur after later confinements. Two such cases of severe degree were carried through a subsequent delivery by low cervical caesarean section with a completely afebrile and uneventful postpartum course.

Sulfanilamide and sulfathiazole have been unsatisfactory in the treatment of phlebitis. Once phlebitis with thrombosis of the vessels has occurred, it is impossible to get any appreciable amount of the chemotherapeutic agent to the infected clot. On the other hand, if a reasonably high blood level of the bacteriostatic drug can be circulating in the blood stream before delivery, we might well expect success in preventing the infection which might otherwise have occurred.

We were advised by competent experts in neurosurgery and vascular surgery that our almost routine practice of

^{1.} P. F. Schneider, Chicago, in S. Clin. No. Amer., via Quar. Rev. Obs. & Gynec., April.

employing spinal anaesthesia in caesarean section would accomplish sympathetic block with lymphatic and vasodilatation over the most critical period of the post-partum course, and that the paralumbar injections could be employed as a prompt follow-up should any symptoms of venous or lymphatic spasm and blockade develop. Accordingly both caesarean sections were performed under spinal anaesthesia using pontocaine because of the prolonged analgestic effect it produces. In neither case was a follow-up with paralumbar sympathetic novocaine injections found necessary.

The primary points in this management are the pre- and post-operative administration of sulfadiazine, post-operative administration of vitamin K, and the use of spinal anaesthesia with an agent productive of prolonged analgesic effect during the performance of the operation.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., Editor, Greenville, N. C.

LESSONS FROM TWO RECENT OUTBREAKS OF SMALLPOX

Conspicuous was the high fatality rate in unvaccinated infants, in the outbreak in Scotland,1 (1942) a lesson we should learn, for we are prone to neglect to vaccinate this age group. The Glasgow outbreak consisted of 11 ship cases, 21 untraceable cases and four contacts; the Fife outbreak was of three untraceable cases, and 26 contacts derived from one of the untraceable cases, and the Edinburgh outbreak was of 13 untraceable cases, 16 cases in a convalescent home, and seven contacts. The ways in which infection spread from one area to another and the ways in which it spread in the two cities remain unknown, though the waves followed at roughly fortnightly intervals. which is consistent with a theory that each wave derived from its predecessor.

The disease was of the major type with a fatality rate of 24 per cent. The type was consistent throughout, except for a relatively small proportion of patients with sparse rashes in Fife and a relatively large proportion in Edinburgh. In Fife five patients had a purpuric eruption, in Edinburgh two. All seven died. In the other patients who died the rashes were haemorrhagic, confluent, or both.

Known contacts were always offered, and rarely they refused, vaccination. It is doubtful whether an assumption can be made of the precise stage at which a patient becomes or ceases to be infective.

Apart from consideration of the effect of vaccination, the experience did not lead one to conclude that the infectivity was high except to certain individuals.

There is a possibility of "missed" cases or even carriers as sources of infection. Reviewing the

1. I. N. Sutherland, in Proc. Royal Soc. of Med. (London), March.

range of clinical manifestations of smallpox, especially the rashes from confluent to spare, one cannot exclude possible extension below the level of clinical recognizability.

It was observed that patients with even scanty rashes had sufficient initial symptoms to make them cease work. Whether any persons, not recently vaccinated, developed the prodromal symptoms but not the eruption, and whether they became infective to others, cannot be determined.

Most of the patients had been vaccinated at some time in their lives, many during the incubation period of their smallpox. Infantile vaccination may not have been performed; if performed, it may or may not have been successful. Subsequent vaccinations up to any number may have been performed and may or may not have "taken." The interval since last vaccination prior to 1942 varies widely. Vaccination in 1942 may or may not have been successful, the last possibility occurring in six persons who shortly developed smallpox, which introduces a fine point in trying to determine why the vaccination was unsuccessful. In patients vaccinated only a day or two before the appearance of a profuse rash the decision whether the vaccination had or had not taken was sometimes impossible.

The superiority of infantile vaccination, giving even greater attenuation of smallpox than that afforded by recent vaccination, is presumably to be explained by regarding the 1942 vaccination as too recent; otherwise the patients would probably not have developed smallpox.

In patients depending on remote vaccination for protection, no significant differences were observed in the fatalities of groups below and above the median interval. Of vaccinations performed after presumed infection, the earlier (nine or more days before the smallpox rash) were associated with significant improvement in fatality and reduction in severity.

There was an unexpectedly high incidence of systemic disturbances and post-vaccinal rashes.

The question arose as to when a vaccination campaign should be instituted. During a discussion of this question Sir Alexander Macgregor expressed the opinion that the time to institute a campaign was when the first untraceable case appeared in the general population.

The most serious complication of the vaccination campaigns was the occurrence of cases of post-vaccinal encephalitis, of which there were seven in Glasgow, with two deaths; eight or nine in Fife with four deaths; 11 in Edinburgh with two deaths; seven in Lothian Counties with four deaths; and one fatal case in Roxburgh County.

The foregoing paragraph makes a strong case for vaccination in infancy—when there is least danger

of any serious result and when the patient is already in hand.

Ninety-seven cases of smallpox were reported to the Ohio Department of Health from January 1st to May 15th, 1943,² compared to 21 cases reported in 1940; 23 cases in 1941, and 31 cases in 1942. The outbreak created a serious problem not only to Ohio, but also to West Virginia, because a large number of Ohio residents are employed in the steel mills in West Virginia.

In Steubenville, a city of 35,000 population, 28,-186 individuals were vaccinated in a period of three weeks. Several of the large steel mills now have practically all their employees vaccinated. This intensive program became necessary because several families, believing they had chickenpox, exposed a large number of residents of this area to smallpox.

Differential diagnosis between chickenpox and smallpox is in many cases difficult. The belief that only smallpox occurs in the palms of the hands and soles of the feet is erroneous.

Smallpox has a prodromal period of three to four days of fever, headache and backache. Chickenpox may occur without any prodomal symptoms; the onset is generally of only one- or two-days duration, and not as severe. The rash of smallpox is more abundant upon exposed surfaces—face, hands and wrists; that of chickenpox on covered surfaces. The lesions of chickenpox practically always appear in the axilla. Those of smallpox are seldom observed in this region. Observed upon a small surface of the body the lesions of smallpox are uniform and of the same stage while those of chickenpox may appear in macules, papules, vesicles and crusts in the same small area of the body observed.

Smallpox should always be suspected when an adult, unvaccinated or not vaccinated since child-hood, develops symptoms of chickenpox.

A vaccination of more than five years cannot be depended upon for protection against smallpox. An individual who is revaccinated will show an immune reaction—redness and itching at the site of the vaccination—within 48 hours after vaccination, if his previous vaccination still provides a protection against smallpox.

2. R. H. Markwith, Columbus, in Ohio State Med. Jl., June.

TREATMENT TIME IN MALARIA CASES CUT (Science Service)

Malaria-stricken soldiers can be treated just as effectively by giving less quinine over a shorter period of time, says Dr. Aubrey H. Hamilton, U.S.N.R., who has had 20 years' experience in anti-malarial work in the war zone of southeast Asia.

Only about a third as much quinine would be required to complete treatment of 100 typical cases as compared to the standard treatment and 50 less days per case.

The hydrochloride of quinine, most used by Dr. Hamil-

ton and his associates, does not upset the stomach as readily as other forms. The tablets also are not likely to harden into pellets that remain unabsorbed, as occurs with quinine sulfate in tropical climates, and can be used either by mouth or injection.

Although preferring quinine, Dr. Hamilton also evaluates the use of other anti-malarials. Cinchona, obtained from South America, does not contain as much quinine as that from Jap-held territory. But other components from this bark with anti-malarial action can be inexpensively and efficiently extracted to augment our supply of anti-malarials. Totaquine "is a reliable and well-tried anti-plasmodial agent capable of replacing quinine in almost all instances." It is about half as potent as quinine, requiring doses of 30 grains a day.

DENTISTRY

J. H. Guion, D.D.S., Editor, Charlotte, N. C.

STUDIES ON THE INCIDENCE AND CAUSE OF DENTAL DEFECTS IN CHILDREN

THESE DEDUCTIONS are from a study¹ of 5103 public school pupils of Newark, 612 colored, of various nationalities and social strata and aged 5-15 years. The group was divided into three subgroups: first, those who presented clean teeth; second, those whose teeth were fair; and third, those whose teeth were dirty. The study of the relationship of state of teeth to caries was limited to the first and third subgroups; 2436 children comprised these two groups.

It was considered correct to declare a mouth in a state of good health if, at the time of examination there was no active caries necessitating repair. The mouth mirror, explorer, college pliers, cotton pellets and scalers were the instruments employed in the accumulation of the data. The x-ray was not utilized as an adjunct.

Of the 1063 white girls with clean teeth, 30 per cent did not show the presence of active caries, but only a little over four per cent of the 42 white girls exhibiting dirty teeth failed to display dental decay. While 33 per cent of the white boys with clean teeth showed no active caries only a little over 12 per cent of those with dirty teeth evidenced no sign of disease. Of the colored girls with clean teeth, 32 per cent disclosed no active evidence of the ailment, but over 44 per cent of those with unclean teeth exhibited active cavities. Of the colored boys with clean teeth, over 32 per cent were free from active caries, but 16 per cent of those with dirty teeth failed to display caries.

The value of the tooth brush in the prevention of caries has been questioned by many in the profession. Its influence on the removal of food debris from the various surfaces of the teeth has failed to receive recognition from many authorities. Some

^{1 &}amp; 2. Marcu Brucker, Newark; 3. H. Becks et al., San Francisco, in Il. Dental Research, April.

convincing light on the theme will be shed by the present report on 4850 pupils investigated, divided into three groups: those who brushed their teeth (1) daily, (2) occasionally, (3) never.

Of 2677 who brushed their teeth daily, 29 per cent: of the 1915 who used the brush occasionally, 17 per cent; of the 256 who never brushed, 14 per

cent did not reveal carious teeth.

The fundamental fact revealed in this study was that more pupils were free from active caries in the group who brushed their teeth daily than in the group who attended to this procedure occasionally or in those who never did.

Hypoplasia-imperfect formation or development-of the teeth is regarded by many as one of the principal factors in predisposition to caries. A group of 1920 Newark public school pupils-990 boys and 930 girls-were studied,2 among them 35 negro pupils. Their ages were 4-16, their socioeconomic status above average. The means of study were the same as in the study of the effect of the use of the tooth-brush.

Of a total of 28,935 permanent teeth examined, only 216 were hypoplastic. Of these, 44 exhibited and 172 were free from caries. The permanent teeth that had dental decay were nearly 11 times more numerous than those having hypoplasia.

From the evidence of these findings and the data submitted by other investigators it is evident that there is no relationship between caries and such structural defects as hypoplasia.

A further study3 was undertaken of the total calcium and inorganic phosphorus composition of salivary samples collected one to three hours after breakfast, with and without paraffin activation, and in comparable groups of caries-free and cariesactive patients. Calcium and phosphorus values of resting, as well as activated, saliva of 25 cariesfree and 25 caries-active individuals fall within the same range and are not significantly different.

DENTAL DECAY PREVALENT IN CROMWELL'S TIME

(From Editorial in Charleston Medical Jl., 1859) A narrative lately published, of excavations made with the view of driving a large leading drain, at considerable depth, right through Marston-moor, where a decisive battle was fought between Cromwell and his Roundheads, and Rupert with his Cavaliers in 1644. At one place, there were found 20 or 25 bodies, laid one over another, in all directions and postures. The skulls had preserved their shape, but crumbled when exposed to air. The teeth retained their hardness and normal characters; but the carious state of those in many gave unmistakable evidence that toothache was in the ascendant, and dental surgery at a discount, in those days.

CATHETERISM OF THE LARYNX IN DIPHTHERIA, as practised by M. Louiseau, of Paris, is not a difficult operation, and has afforded temporary relief to some patients. It has cured four out of 26 cases; whilst tracheotomy and the internal treatment were successful in nine cases of these 26, after M. Louiseau's treatment had failed .- Lancet, 1860.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

MILK BY VEIN

CERTAIN IT MUST BE that few of us know that milk was ever given by vein as a substitute for blood transfusion. From the North Carolina Medical Journal, 1878, we learn:

At the stated meeting of the Academy of Medicine (N. Y.), April 18th, 1878, Dr. T. G. Thomas read an essay on the "Intravenous Injection of Milk," as a substitute for the transfusion of blood to seven gynecological subjects with five successful results. The idea was based on the physical and chemical resemblance of that fluid to the chyle which is physiologically poured into the left subclavian vein, and his conclusions that milk is equal in efficacy to blood and free from many dangers inherent in blood transfusions.

The cow should be milked at the door of the patient's residence, by clean hands, into a clean pail covered with fine gauze; and the milk should be slightly alkaline, and maintained at a temperature of 99 to 100° F, during its flow into the vein, by means of a glass funnel connecting with a small silver canula by means of a short rubber

Proper care being taken to exclude air, five to eight ounces of milk are allowed to flow slowly into the median basilic or cephalic vein. The immediate effect is often quite unpleasant and even alarming, as the pulse may become very rapid, the respiration of a sighing character which, with chills or tremors, denote a profound impression upon the nervous system. But these soon subside, and in every instance they were followed by marked signs of amelioration.

The process may be repeated upon the return of the original indications, which may occur as often as every 24 hours; but in Dr. Thomas' experience no case required the repetition more than five times.

All of Dr. Thomas' cases were benefited by the treatment and, but for serious visceral complications in two, there would probably have been no death to record.

In the volume of the same journal for 1880 we find this note:

Martin and Richet say that in a therapeutical point of view the injection of milk is a useless and dangerous operation and should be proscribed.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M. D., Editor, Charleston, S. C.

PREVENTION OF DEAFNESS IN CHILDREN

Deafness and defective hearing have been in the past looked upon as visitations of the wrath of The Almighty, about which little could be done. This attitude was due largely to the inability to improve greatly the fixed hearing defects of adults and lack of interest in detecting early defects in children. Physicians, parents, teachers, school boards and Parent-Teacher Associations are awakening to the fact that much can be done especially in children. It goes without saying that the earlier detection is made the better prevention work can be done.

Recent surveys show that hearing defects serious enough to demand investigation and treatment are present in from two to 10 per cent of the entire child population.

Many still think in terms of normal hearing or total deafness.

Partial deafness may be the cause of unhappiness with other children. Cocking the head on one side and straining to hear may be a sign that the child is not hearing well. He may appear mentally dull or indifferent when it is only his ears that are dull. A stupid expressionless face may be a sign of defective hearing. Some hard-of-hearing children are mouth breathers, from diseased or enlarged adenoids or tonsils. A child who lisps or whose speech remains at infantile level may not be hearing normally. An individual who speaks in a monotone may not be able to distinguish one pitch from another. Seldom does the hard-of-hearing child realize that he does not hear normally.

It is estimated that 50 per cent of all cases of impaired hearing in young children may be improved if treated in the early stages. Periodic testing of the hearing is now a law in 20 States. Recently, in Wisconsin, 38,000 children were tested and 11 per cent were found to have impaired hearing and medical treatment was recommended. Yet, many of these children were not treated because their parents did not realize how serious the handicap was. It is important to understand that a hearing loss, though slight, may become worse as time goes on. Hearing loss may be 30 to 40 per cent before it is discernible in ordinary conversation.

Congenital defects, cerebrospinal meningitis, scarlet fever, mumps and measles account for 10 per cent of all hearing defects of childhood. Of cases due to other conditions few are amenable to treatment; but these children can be protected against further deafness by guarding against otitis media, nasopharyngeal lymphoid hyperplasia, and frequent colds—all which tend to superimpose con-

duction deafness upon the existing nerve deafness. The remaining 90 per cent of partial deafness in children is largely preventable and remediable.

A lot can be done by (1) prevention of colds; (2) removal of overgrowth of nasopharyngeal lymphoid tissue, especially in the fossa of Rosenmuller and all around the eustachian tube orifice. It has been said that the most poorly performed operation in all surgery today is the adenoid operation. For the prevention and care of deafness in children a clean adenoid removal is vastly more important than tonsillectomy. Under direct vision, with the special small-size instruments for little children, and by the use of the exploring finger, one should be sure that all lymphoid tissue is removed. Dr. Crowe reports good results with radium.

(3) Early detection and thorough treatment of sinus infection will reduce the occurrence of otitis media.

(4) Systematic early examination of little children will accomplish much. In preschool examinations for the blue-ribbon parties, parents, teachers, nurses and physicians can do much if they are put on the alert by the otologist. It is surprising how well even tiny tots coöperate in the tuning-fork, coin, watch, spoken and whispered-voice tests when their interest is aroused in the "new game they are being taught." When it is explained that the audiometer is a baby radio sending station and you want to know just which sound waves the child hears best, they readily coöperate.

The understanding parent is anxious that everything possible be done for the child and the physician must rid himself of the idea that nothing can be done. In advanced cases lip-reading is a great help. Wider use of the properly-fitted hearing aid must be made. Hearing aides are not nearly so unsightly as spectacles, yet the general public cringes from their use. This may be due in part to the practice in the past of promiscuous buying of hearing aides which were expensive, ill-fitted and did no good.

General examination frequently reveals that medical treatment relieves the defective hearing.

Obviously, earaches, running ears, throat infections, colds, avitaminoses, anemias and the exanthemata all must have appropriate treatment.

Of course, in total deafness, a complete plan of rehabilitation and readjustment must be made; but there is a much greater return on the effort expended toward preventing the deafness, saving the child happiness and the State much money from repeated grades in school, and finally from an institutionalized life for the child.

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

THE FUTURE OF HEALTH CARE

THE JEREMIAHS, apparently, are in charge of matters medical. They and their variants, The Godsakers. Read any Presidential Address from the mouth of a Doctor of Medicine. The Jeremiahs only wail and rend their raiment. The Godsakers loudly call on somebody else to "for God's sake do something."

The President's Address¹ to the Illinois Medical Society breathes a different spirit. This state medical society president happens to be a general practitioner. Likely that explains his greater hopefulness. Also, we all know that radical change from the present method of rendering medical care would work its greatest hardship on those doing general practice.

Dr. Weld first masterfully analyzes the work of the doctor. He reminds us that:

The doctor works all the time to see that proper mating is done from healthy individuals; that the baby has protection from infectious diseases, that his nutrition is ample, that his environment is the best possible, that his school life is guarded against the hazard of adolescence and that he is taught the fundamental principles of right living: to guide and guard his working hours; shows a profound interest in the later years of life, trying to protect those years against hardship and worries, to improve the housing, the food and recreation of the aged, and to generally improve the happiness and the length of life to the greatest possible extent. We have, he proudly and justly claims, "never taught or fostered anything but lengthening of the span of human life and the advancement of human happiness."

It is admitted, as a matter of course, that in the practice of medicine there is room for improvement. It is foreseen that we are going to have changes, "but the changes should be gradual and each change should have thoughtful consideration, and the medical profession itself should solve its own problems." This Address goes on to say:

We are often accused of failures the responsibility for which lies in the economic set-up of the individual. Rules and regulations that are stressed in an emergency often remain to bind and plague after the emergency has passed. We hope to preserve a standard of practice worthy of the respect of our returning colleagues but it is with some apprehension that we look into the future.

It looks as though, from birth, from conception, from the pre-marital period, the plan of some in high places is to care medically for all the people till they die.

^{1.} E. H. Weld, M.D., Rockford, in Ill. Med. Jl., June.

But, all of this costs money. The present national debt per individual, every man, woman and child, is \$2,000 each and growing by leaps and bounds. Is it not time that our Federal Government exerted some old-fashioned thrift and not continually force money upon our State with the idea-if we will match it with an equal amount? We all know that the money that they give back to our State-if we will match it-is money that came out of our State-less of course the handling charge. Dr. Weld prefers to look upon the Nation and State as being controlled by the same economic philosophy that holds in our individual and family affairs. Most families have learned that it is a true and honest philosophy of life to pay their bills, to gradually buy their homes and to pay for the services that they receive and to forego those luxuries that they cannot pay for. He believes that parents spoil their children by giving them too much; that by doing too much for them they not only take away their initiative, but they destroy for them many of the joys and satisfactions of life. The children of the parents in any home are little different from the children of Uncle Sam, and he hopes that we will not let the fundamental principles of American life cloud the issue when we hear the promises that are made for "a more abundant life." The living of the abundant life rests with the individual. "Can you make a child happy, healthy and full of joy by giving him everything he desires? I believe not."

What then is the future of medicine?, he asks. Will it be Socialized Medicine? Will American business become Socialized Business? The extent that we adopt Socialized Medicine will depend upon the extent that we develop a Socialized Government. The endeavor is to provide the essential needs of life for all. This will require careful planning. It is time now to plan for the future of Medicine, to see that the pendulum does not swing too far in any one direction. A committee on postwar planning and security could well cooperate with men of other professions and business enterprises so that our way of life in this country will be stabilized. We should take an active part in the politics of our local, state and national government so that we can help develop and shape the trend of thought. We should make a thorough study of hospital insurance and of all plans for prepayment of medical services. The medical profession realizes their responsibility and will take an active part in the development of the future of medicine along the lines that will give the best possible medical service to all our people. We must not fail to fight not only for our freedom as individuals but for the freedom of all our citizens. work of the doctor. He reminds us that:

This journal has maintained over and over that

Medicine in this country will never be socialized through Government action unless and until the whole Government is socialized; that this socialization of all groups would affect the lawyers; that lawyers make our laws; that most of the lawyers making our laws are getting fat fees from the private practice of law even while they are in the National Congress or State Legislatures, and that most of them will be out of office and back home in the practice of law before very long; and that all this means that neither the Practice of Medicine nor the Practice of Law is going to be socialized by legal enactment.

In the same issue of the same journal the President of the American Dental Association² discusses' the same issues.

The health problems confronting dentistry and medicine this official recognizes as basically the same. Current trends portend further modifications of our social relationships. The term socialization is used in his discussion as the broadening of human opportunity to the degree that all deserving members of society may, by ethical processes, obtain those things of life without which they cannot live happily. There is a growing insistence that health is among the most essential of all the good things of life and that means should be devised by which preventive and curative health services may be distributed evenly to the whole people.

Dr. Robinson's discussion elaborates important historical features of the case.

Welfare centers, financed by philanthropy and administered by altruistic workers committed to the purpose of providing relief to the suffering, the underprivileged and the unfortunate grew into movements and soon the health aspect of this welfare program became as important as were clothing, food and shelter. Milestones in the progress of the socialization concept were the White House Conference on the Care of Dependent Children, called in 1909 by Theodore Roosevelt; the International Conference of Child Welfare Experts, called in 1919 by Woodrow Wilson; and the White House Conference on Child Health and Protection, called in 1930 by Herbert Hoover. Assistance grants to the various states have stimulated health programs that are gradually expanding their activities to include more and more personal services.

He sees indications that some form of national health plan may be inaugurated soon in this country. Should we be confronted by such an eventuality the most important single consideration in connection with it is that, in the best interests of the public, the professions having to do with health matters shall take the leading part, as they are the only groups qualified educationally and temperamentally to engage effectively and ethically in such

^{2.} J. B. Robinson, D.D.S., Baltimore, in Ill. Med. Il., June.

planning. He calls attention to the fact that health practice laws were never designed for the benefit of the practitioner, but for the protection of the public

The American Dental Association within the year created a National Council on Dental Health, a fact-finding body and an advisory group now making a study of a number of social trends, low-income groups, prepayment plans, industrial dental hygiene, state and local health programs, organized national health projects, research in public dental health, and a caries-control program.

The medical and dental professions this high official in Dentistry sees faced with a grave emergency and a profound responsibility. He has every confidence that the leaders in the American Medical Association and the American Dental Association will prove equal to the task, for they are "intelligent, thoroughly informed, resourceful, hopeful men."

It is heartening to find vigorous expressions from the highest officials of two great bodies of doctors, both of them looking to the future with confidence.

Before the North Carolina Dental Society's meeting of some ten years ago, the editor called attention to the fact that the members of that body and the members of the Medical Society of the State of North Carolina are in the same boat, and urged closer coöperation between the two groups, in the care of the health of their patients, and in defense against all movements threatening the destruction of the best interests of patients and their doctors. Evidently, the present President of the American Dental Asociation is of the same mind.

CREMATION: RATIONAL, DIGNIFIED, ESTHETIC—AND INEXPENSIVE

ALL FAMILY PHYSICIANS, as counselors of their patients, should be informed regarding the details of the cremation of human bodies, so that they can answer questions about the method intelligently.¹

With the foregoing statement there can be no reasonable disagreement. And Dr. Lake goes on to discuss the subject with a seriousness befitting the importance of the problem.

Human beings have long taken some pains in the disposal of the members of their families. The Egyptians and the ancient Peruvians mummified their wealthy or illustrious dead. In both these countries, however, because of the high cost only the rich or famous received this attention. Among certain classes of people in the United States there seems to be a tendency to return to something like these practices, and careful embalming, together with the use of impervious metal caskets and un-

Human bodies were disposed of by burning as long ago as the 10th century B. C. and cremation was in great favor among the highly civilized Persians, Babylonians, Greeks and Romans. It is widely used today in many parts of the Orient. The Christian Church threw all the weight of its influence against the practice of cremation and forbade it, under pain of penalties in this world and the next, so that even nations which had been wont to employ this highly satisfactory method abandoned it when they came under the influence of Christianity.

Credit for the restoration of the practice is due to the Italian physicians and chemists, Polli and Brunetti, and to others who took a bold stand in favor of it. The first crematory in Europe was built in Milan in 1877 and it became so popular that, by 1882, Italy had five others.

Gotha built the first German crematory in 1878, but the second (the one at Heidelberg) was not constructed until 1891, and the third (at Hamburg) in 1895. Other European countries were still slower in taking action in this matter.

The first interest in cremation manifested in the United States was in 1874, when the "Society for Cremation of the Dead" was organized in New York City. The first crematory in this country was built in Washington, Pennsylvania, in 1876, by Dr. F. Julius Le Moyne, an enthusiastic advocate of the practice whose own body was cremated in 1879. In 1881, the New York Cremation Company was organized and a crematory was built in the metropolis. From this time the idea spread rapidly until now most of our large cities are equipped to dispose of bodies in this manner.

In considering the question of the disposal of human remains there are three main points to be considered: the hygienic, the esthetic and the economic. For some, the occult aspect of the case is also of importance.

Bacteria present in a body at the time of its burial will live in the soil for years and may, at any time, escape into the water supply; to say nothing of possible infection of those who may have occasion to work in the soil where bodies have been buried.

Strangely many still shrink from the idea of having the bodies of their relatives cremated, when a moment's reflection will show that this is a far more esthetic process than that of burying in the ground. The fact that few have the courage to a buried body readily indicates which method should be preferable by tenderhearted persons.

derground vaults of concrete have come to be the general practice of those who do, and many who do not, have the price.

^{1.} G. B. Lake, Waukegan, Ill., in Clin. Med., June.

Burial expenses, especially in cities, are very great, and the people who dread the idea of cremation for sentimental reasons are almost always the ones who would incase the bodies of their dead in expensive bronze coffins and seal these into concrete vaults. Not infrequently a family will spend the savings of a lifetime in order to give the remains of a dear one what they call a "decent burial."

The charge for cremating a body, in Chicago, is only about \$40, which includes the cost of a simple container for the ashes and also, as a rule, the use of the chapel for the funeral service, if desired. The ashes may be—frequently are—scattered on the ground, so that no burial is required. Those who wish to bury the ashes can do so in a space much smaller than that required for a grave.

The first Chicago crematory was built in Graceland Cemetery in 1895. This is still a very popular and efficient institution. There are now five such institutions in the city.

In one hour (starting with a cold retort) cremation is complete, and an hour after that, if necessary, the ashes can be removed, though it is better to leave them three or four hours or overnight.

The retorts are made of heavy fire brick and are usually heated by some form of burner using fuel oil and air under heavy pressure. The jet or jets of flames are not directed upon the body but against the top and sides of the retort. The clothing is promptly consumed and these ashes are swept out by a powerful air blower, through a smoke burner, and into the chimney, from which nothing escapes but odorless gases and a little fine dust.

The heat gradually evaporates all the moisture and when this point is reached the temperature of the retort is from 1600 to 2400° F. The fuel is now shut off and the oxidizing process, by which the remains are converted into carbon dioxide and nitrogen, proceeds by means of the intense heat and a forced draft. At the end, nothing remains but the ashes of the bones—almost pure calcium phosphate.

When the retort is opened the ashes are placed in a bronze box, 5x5x5 inches, or in a simple stone urn, or are scattered among the shrubbery of the cemetery, as directed by those responsible. The receptacle containing the ashes may be taken home by the relatives; buried in a small grave; stored in the vaults of the cemetery (at a charge of \$5 a year); or placed in a more or less elaborate urn.

Before cremation can take place the authorities must have a certificate signed by the legally constituted custodian of the body, directing that it be disposed of in this manner and stating what is to be done with the ashes. Those who desire that their bodies shall be cremated will be wise to leave written directions to that effect, in their wills or otherwise.

At Graceland Cemetery, in 1932 burials were 40 per cent, cremations 60 per cent; in 1937 burials 34 per cent, cremations 66 per cent.

It is to be hoped that the simple, cleanly, dignified and civilized process of cremation may rapidly replace all less satisfactory ways of disposing of our dead.

Southern Medicine & Surgery has a long-time interest in this matter. In its issue for February, 1931, we had this to say:

An item of great importance in the high cost of going through the cycle called living is that of disposing of us after we are dead. No array of figures is needed to prove that entirely too much is spent on funerals and burials, or that most of this excessive cost is brought about by the extortionate charges and conscienceless practices of undertakers who seize on the opportunity to prey on the tender feelings and the vanity of persons in sore distress.

This journal is heartily in favor of dignity and decency in returning our dead to their primal state. Ostentatious display in funerals is disgusting to all who can lay claim to being civilized.

One of our most reliable periodicals¹ tells us that 30 per cent of those who die west of the Rocky Mountains are cremated, that the only crematory in the Southern States is at Orlando, Florida, and a lot of other facts of great interest. Many will be astonished to learn that Col. Henry Laurens, president of the First Congress, was the first white man to be cremated in the United States, that this was done in his garden in Charleston, in 1792; and that shortly afterward the remains of his friend Henry Barry were cremated at Marion, S. C.

It is shown that tradition, religious prejudice and undertaker's opposition are the three great deterrents to the progress of the practice of cremation.

In London the cost to the city averages \$1 each. In Vienna the cost to one and all is \$6. In California a niche for eight urns may be had for \$75 and this includes a bronze panel.

Our own idea of ideal interment is to be wrapped in a clean sail cloth and buried at sea. Cremation is a close second. The Consuming Fire is much to be preferred to the Conqueror Worm.

Every doctor frequently sees sums spent on burials which should go to the support of widows and the education of children; and comfortless widows toiling for years to pay for burying the husbands they supported throughout their lives together.

^{1.} The American Mercury, December, 1930.

Any good carpenter can buy walnut boards and make an elegant coffin for \$50 and make handsome wages, but even then, the cost of a plat and tombstone will make the total cost excessive.

A prominent Charlotte doctor offers to join with us in organizing a group favoring cremation, with a view toward making a crematory possible here. This journal is earnestly interested and would be glad to hear from others who are likeminded. Also that such movements are being set on foot elsewhere in this section.

In its issue for June, 1934, we gave details as to how we in these parts can cut down on the high cost of dying and do better by those it is duty to protect.

The gist of our editorial of that date is:

According to a recent statement by our State Health Officer, "We spend six times as much for tombstones and funerals as for public health."

And what good comes of spending money in such a way? Is it not worse than a waste?

Offhand, there comes to mind only one spectacle more vulgar than an ostentatious wedding, and that is a showy funeral. Display is in the worst of taste in families of ample means, for all such ceremonies should be carried out in dignified simplicity; how worse than barbaric it is in setting an example of lavish showing-off to be copied by families whose slender means have been exhausted in the illness which has occasioned the funeral, which may even have taken the bread-winner of the household!

It has come to be the rule for the recently bereaved to be practically forced by custom, vanity and a mistaken idea of duty to the deceased, to spend from ten to twenty times as much in disposing of the dead as is dictated by good religion, good taste and good sense. Every doctor frequently sees sums spent on burials which are urgently needed for the support of widows and the education of children.

General community feeling should be aroused at such abuses. Doctors have most occasion to know about such instances: and then doctors have a special interest that these practices be discontinued. A few weeks ago a doctor came in and told a story of his experience with a patient who had very recently had ornate burial. This man had been cared-for by this doctor over a period of several years. The patient was grateful for this care and ashamed that he could pay nothing for it; "but," he often said, "Doctor, I'm an old man, and I'll not live long; I have some insurance and you'll be paid out of that." Soon after the burial the widow came to the doctor to tell him she, too, had expected to pay him; but the undertaker had charged her all that was left after she had paid urgent monthly accounts. And that doctor was at that

time in imminent danger of losing his home!

It is obvious that a great deal of what goes to undertakers belongs to doctors and should go to doctors. If doctors will, we can collect for ourselves and our families much that is rightly ours, and would be paid to us but for its being worse than wasted on burials.

How? By promoting cremation as a means of disposal of the dead. By adopting this method for ourselves, we can leave more for our dependents and set a wholesome example which will be followed by many of our patients.

As to availability: There is a crematory at Duke University and its facilities are open to the public. We have inquired of the Dean of the Medical School and it is with his permission that these facts are being made known.

To those able to pay, the charge is \$50.00; the time required is two hours. Ashes will be placed in a box or jar and returned as desired. J. M. Harry and Company quote a price for this kind of hearse hire to and from Durham of \$25.00.* A perfect method of disposal of such ashes is to spread them on the waters of a stream or lake. Total cost of a dignified, esthetic disposal of our dead, \$75.00; as against average funeral cost \$750.00, to which are to be added cemetery and tombstone costs, average grand total \$1,000—net saving \$925.00.

Tradition, religious prejudice, vanity, gullibility and vulgar rivalry are the great deterrents to the progress of the practice of cremation.

*We are informed this date that these facilities are no longer at our disposal. Investigations are being made and will be reported on in our next issue.

THE NEARER CAUSES OF CANCER

As the leading article in this issue was being put into type, we came across an article by the eminent physician whose researches form the basis for a great part of our leading article.

About cancer causation not enough is yet known to permit of much of dogmatic statement from men of such ability as Dr. Taylor and Dr. Ross. The two are agreed, however, that a good deal has been learned and that avenues have been opened through which much more is to be learned.

This Rockefeller Institute savant¹ emphasizes the idea that all tumors, malignant and benign, may have a common fundamental origin.

The distinction between benign and malignant growths, though vital to the patient, is not expressive of any basic cleavage in the case of true neoplasms. There is much evidence that benign tumors and cancers are only individual expressions of a single, strongly characterized neoplastic principle.

^{1.} Peyton Rous, New York, in Jl. A. M. A., June 20th.

And he goes on to evaluate other factors:

Precipitating factors may be mechanical and physical agents—gallstones, ill-fitting horse harness, the roentgen rays, heat or freezing; or chemical agents of widely diverse sorts.

The growths which have been traced to the action of viruses are few in comparison with the multitude of those for which no cause is known.

Certain instances there are in which viruses may function as provocative carcinogens instead of serving as the actuating causes of tumors.

An obvious step toward learning the real state of affairs would be to get a virus of some sort from the cancers; but all such attempts have failed.

Observations of many workers have made plain that the provocative carcinogens in many instances elicit tumors of a sort that the animal is more or less likely to have spontaneously.

A remarkable "milk-influence" is dealt with:

Newborn female mice of "higher-cancer" strains have been suckled by "low-cancer" foster mothers, and it has turned out that in this way the young were rescued in nearly all instances from mammary cancer, living out their lives free from it: and further work showed they had been prevented from acquiring something which ordinarily comes to the young in the milk of mothers of cancerous strain-the "milk influence" or "mammary-tumor inciter." Yet these mothers did not have cancer at the time when they passed on the "influence;" nor did the young that they themselves suckled develop the disease forthwith but only long after growing up. From the tissue of the mammary cancers nothing could be got that would cause tumors directly, though it yielded the "milk influence" on extraction, as did also the ordinary breast tissue.

Whatever the character of the "milk influence," its discovery suggests an explanation for the differing neoplastic liabilities of inbred animals.

About provocative agents:

Those carcinogens which merely provoke the disease are crucial to it nevertheless, since without them it would not occur. Many are so powerful, the röntgen rays and certain synthetic hydrocarbons for example, that they bring tumors into being. Not a few agents to which man unwittingly exposes himself under the circumstances of ordinary life are scarcely less effective. Every animal body possesses a myriad of potentialities for tumor-formation and only by good fortune do most human beings slip through life without the realization of a single one of them.

More and more have investigators come to realize that the human tumors which seem spontaneous must actually be brought on by provocative carcinogens of one sort or another. Only lately they have perceived that hormones, when functioning in excess, may render tissues so abnormal as to

start tumors off, and now they are asking whether disordered metabolic processes may not lead to the manufacture of endogenous carcinogens. Every spontaneous tumor is an induced tumor is an axiom which should spur clinician and laboratory worker alike to be forehanded with cancer.

RESOLUTIONS MECKLENBURG COUNTY MEDICAL SOCIETY ON DEATH OF DOCTOR WILLIAM ALLAN

At the Baptist Hospital at Winston-Salem, on the 24th of April, died William Allan, Doctor of Medicine.

North Carolina has had her full share of able curers of disease. She has had many scholarly doctors. Of men of importance in research in medicine she has had quite a few.

Her one doctor eminent in all these fields was William Allan.

Born of Colonel William Allan, distinguished alike as soldier and teacher, and of Elizabeth Randolph Preston Allan; brought up in the stimulating mental atmosphere of Lexington, Virginia; completing his classical education at Washington and Lee University—it would have been strange had not William Allan's contribution to knowledge been exceptional.

After graduation from the Medical School of the University of Maryland, he took special work in pediatrics and came to Charlotte some thirty-five years ago to establish himself in practice. Immediately he was made a member of the faculty of the North Carolina Medical College-because of the dearth of men well-trained in laboratory medicine, he was assigned this subject. Often he was heard to refer to pediatrics as general practice with an age limit. No one gained the impression that he meant this in any derogation of either the pediatrician or the general practitioner; but only as his way of saying that active practice in that line left no time for the research work on which he was firmly resolved and for which he was so splendidly equipped. So he went into internal medicine, the broadest of the specialties, in which he soon began building the reputation which was to make him the foremost medical consultant of this section: and his original studies in blood diseases and parasitology, in some of which the late Dr. Harvey P. Barret collaborated, soon made his name widely famous.

With the coming on of the First World War, Dr. Allan was one of the first to volunteer for military service. Sent to France as an officer of Hospital Unit "O," its personnel chosen largely from Charlotte and its vicinity, he served till the close of the war with the combined Hospital Unit O and Massachusetts General Hospital Unit and was discharged with the rank of Major.

Returning to Charlotte he took up where he had left off and vigorously prosecuted his consultative and research work, the latter now mostly in the field of heredity. Up to now his researches had been of his own financing. After a while their value was realized and recognized to the evtent of his being awarded certain funds which helped materially in enlarging the scope of his studies.

During a great part of this period Dr. Allan suffered from a progressively crippling arthritis, and it seemed as though he might soon be obliged

to retire entirely from clinical medicine.

The coming into being of the Bowman Gray Medical School, and this School's recognition of the importance of the subject which had so long enlisted Dr. Allan's interest, and in which he had become recognized the nation over as an authority, brought him the offer of the Chair of Medical Genetics in this new medical school. The opportunity and the man had met and Professor Allan entered on his new duties with enthusiasm. He had thoroughly organized his course; his students had learned, as had all doctors who attended medical meetings in this section for a third of a century, of his talents as a teacher; and his lecture room was crowded.

Scarce three months after his entering on his professorial duties he lay dead.

Resolved-

That in the death of William Allan North Carolina has lost her foremost doctor.

That this Society, in its great loss, holds him in memory as an exemplar of all that is best in the profession of Medicine; and

That a copy of this tribute be mailed to Mrs. Allan and one to each newspaper of Richmond, Lexington, Winston-Salem and Charlotte.

R. F. Leinbach,
Oren Moore,
Jas. M. Northington,
Committee.

MEDICAL OFFICERS NEEDED FOR FEDERAL CIVILIAN WAR SERVICE

The critical shortage of physicians to engage in vital war work in the civilian branches of the Government continues. The Civil Service Commission has just revised and reannounced a liberalized civil-service examination for Medical Officers.

Those appointed will perform professional duties as doctors of medicine in active practice in hospitals, in dispersaries, or in the field or in rural areas; or in bureau of the Government such as the Veterans Administration, Civil Aeronautics Administration, Public Health Service, and Foo dand Drug Administration. Doctors will also be used in industrial establishments under direction of the War Department.

Applicants for all grades must have received the degree of M.D. from an accredited medical school. Applicants for the Senior Medical Officer grade (\$.228 a year) must had at least 5 years of appropriate medical experience; for the Medical Officer grade (\$4,428 a year), 3 years of ex-

perience in addition to a required interneship; and for the Associate Medical Officer grade (\$3,828), 1 year of interneship. The salaries quoted include overtime pay.

There are no written test sand no age limits. Persons now using their highest skills in war work should not apply for these positions. Appointments in Federal positions are made in accordance with War Manpower policies and employment stabilization plans. Before a definite offer of appointment is made, eligibles are cleared through the Procurement and Assignment Service for Physicians, Dentists and Veterinarians of the War Manpower Commission.

Further information and Application Forms may be obtained at First- and Second-class Post Offices, Civil Service Regional Offices, and the Commission at Washington.

DENTAL HYGIENISTS NEEDED FOR ARMY DISPENSARIES

To supply the army with needed dental hygienists, the U. S. Civil Service Commission has foregone the experience requirement for such personnel. Many hygienists are in demand for Army hospitals and dispensaries throughout the country, particularly in the West and Southwest.

Dental hygienists are under Federal civil service regulations and are stationed only within the United States. They receive \$1,970 a year entrance salary including overtime pay. The workweek of 48 hours includes 8 hours of overtime.

Completion of a course in a recognized school of oral hygiene, and registration as dental or oral hygienist, qualify for the positions. There are no age limits; no written tests. Standard application forms must be filed with the United States Civil Service Commission, Washington, D. C.

Persons studying oral hygiene may also file, receive provisional appointments, and enter on duty after completion of their courses and registration.

Full information and application forms may be obtained at First- and Second-class Post Offices, at Civil Service regional offices, and at the U. S. Civil Service Commission, Washington.

RONTGEN-RAY DIAGNOSIS OF PREGNANCY IN N. C. IN 1896

In a paper on "The Management of Gestation" before the Medical Society of the State of North Carolina in 1896 Dr. C. A. Julian, Thomasville (*Trans, Med. Soc. N.* C., 1896) had this to say:

Science today has given us eyes to read through impenetrable substances the position of the foetus in utero after the beginning of ossification of its bones. The x-rays bring to light the deformed pelvis and give us justification in our acts. The harlot who has "only taken cold" will no longer be plied with torturing questions and examinations; her condition will be revealed by the pressing of a single button. This has given to the obstetrician the magic wand and the promise of life and safety to his trusting patients.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF WILMINGTON (N. C.) dissolved by mutual consent before a coures of lectures was given. The money remaining in the hands of the treasurer was turned over to the Ladies Benevolent Society for use among the poor. Correspondents seeking for information will please address their letters to Dr. H. S. Norcom of this city (Wilmington).—N. C. Med. Jl., 1880.

Prices of Male Sex Hormone Reduced Up To 40%

Roche-Organon, Inc., Nutley, N. J., have announced reductions in the prices of Neo-Hombreol (M) Tablets (methyl testosterone tablets), of 37½ to 40%; Neo-Hombreol Ampuls have also been reduced 10% in price.

NEWS

AN APPEAL TO THE PUBLIC FROM THE PHYSICIANS OF RUTHERFORD COUNTY

The demands of war have made heavy inroads into the ranks of doctors and physicians of this county. Their number has decreased and the probability is that more doctors will be called into the service.

Rutherford County has lost forty per cent of her doctors to the military medical service.

Year Population No. of Doctors 1934 41,000 25 1942 46,000 15

12% Increase in Population: 40% Decrease in Number of Doctors

There will be no improvement of this situation until after the war. If the services of additional physicians from this county are needed in the armed forces the local shortage will become more acute.

Therefore, it is absolutely necessary that certain rules and regulations be made and strictly adhered to:

1. Respect Your Doctor's Office Hours

Go to the office at the regularly established hours. Those hours have been arranged to suit the convenience of a majority of your doctor's patients. Do not consult him at his home at meal time or on Sunday. The office is equipped for examination and treatment of the sick. The doctor's home is where he and his family live. It is much less expensive to go to the office.

Make Your Appointments Early in the Day

When a home call is necessary turn in the call early in the day so that your doctor can make up a schedule of each day's work and conserve time by working systematically. Many people wait until late afternoon or evening to turn in calls. This habit creates an overload of calls and necessitates a sick patient having to wait longer than would otherwise be necessary. This also keeps your doctor up late at night, causing him to lose much-needed sleep. 3. Pay Your Doctor Promptly

Wages and salaries of most families are at a higher peak at present than in many years. Your doctor's time is so completely taken up that he has but little time for collections of accounts. All office work must be cash in order to eliminate this unnecessary work and bookkeeping. On account of unusual overhead expenses the doctor cannot serve without pay. Those who are delinquent may not be served at all.

4. Night and Sunday Calls

No night calls will be made except in extreme emergencies, and all calls between 8 p. m. and 8 a. m. will be considered night calls. This is necessary that the physician be able to get a certain amount of rest in order to carry on the double duty now imposed on him. Extra charge will be made for night work. Only emergency calls back to the office will be rendered on Sundays and they will be charged as usual home visits.

OFFICE OF CIVILIAN DEFENSE ANNOUNCES NEW AFFILIATED HOSPITAL UNITS OF CIVILIAN PHYSICIANS FOR EMERGENCY SERVICE

Fifteen hospitals have completed units since the first list of completed units was announced April 15th. The recent additions are:

Delaware Hospital, Wilmington.

Elizabeth General Hospital, Elizabeth, N. J.

Goddard Hospital, Brockton, Mass. Greenville General Hospital, Greenville, S. C.

Hillman Hospital, Birmingham.

Macon Hospital, Macon.

Medical College of Virginia, Richmond. Methodist Hospital, Dallas.

Millard Fillmore Hospital, Buffalo. Mississippi Baptist Hospital, Jackson,

Mount Sinai Hospital, New York. Queens General Hospital, Jamaica, L. I., N. Y.

Rhode Island Hospital, Providence.

Santa Clara County Hospital, San José. Waterbury Hospital, Waterbury.

ix of the fifteen in Southern States) Members of these units receive inactive commissions in the U. S. Public Health Service and will be called to active duty by the Surgeon General only on the recommendation of the Chief Medical Officer of the Office of Civilian Defense.

DR. STRECKER NAMED SPECIAL CONSULTANT IN PSYCHIATRY TO SECRETARY OF WAR STIMSON

Dr. Edward A. Strecker of Philadelphia, president of the American Psychiatric Association, has been named Special Consultant to the Secretary of War for the Air Forces of the United States Army, according to an announcement by the Committee on Public Education of the American Psychiatric Association.

The appointment marks the second special consultant's post for Dr. Strecker. A month ago, he was named Consultant in Psychiatry to the Surgeon General of the Navy, in which capacity he acts as advisor in psychiatry to the Navy's Bureau of Medicine and Surgery.

Dr. Strecker recently established the first intensive training school for naval medical officers in Philadelphia. All of the medical and hospital facilities throughout the city are cooperating in this program, three months in length, which has already graduated more than a score of officers. A third class is in training.

Dr. Strecker has had extensive military experience. In World War I he held the rank of Major in the Army Medical Corps, as division neurophychiatrist for the 28th Division in France.

NEUROPSYCHIATRIC SOCIETY OF VIRGINIA

The Summer Meeting was held in the Baruch Auditorium of the Medical College of Virginia, Richmond, on June 23rd, at 2 p. m.

The following presentations were made:

The Problem of the Criminal Insane-Dr. Joseph R. Blalock, Marion.

Clinical Symptoms and Anatomical Changes in Psychosis with Cerebral Arteriosclerosis (with slides)-Dr. Riley H. Guthrie, St. Elizabeth's Hospital, Washington.

A Clinic of Neurological Cases-Dr. R. Finley Gayle and Dr. Jas. Asa Shield, Richmond.

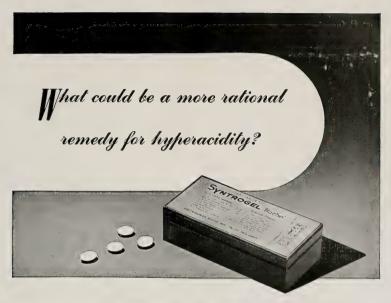
Officers-Dr. Joseph R. Blalock, President; Dr. O. B Darden, Vice-President; Dr. Jas. Asa Shield, Secretary.

THE AMERICAN CONGRESS OF PHYSICAL THERAPY

Will hold its 22nd annual scientific and clinical session September 8th-11th at the Palmer House, Chicago. Rehabilitation is in the spotlight today. The annual instruction course from 8 to 10:30 a.m., and from 1 to 2 p. m. the 8th, 9th and 10th, will include a round-table discussion group from 9 to 10:30 a. m. the 9th. The didactic and clinical sessions will be given on the remaining portions of these days and evenings. All sessions will be open to the members of the regular medical profession and their qualified aids. For information address the-

American Congress of Physical Therapy, 30 North Mich-

igan Avenue, Chicago.



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Joins Davis Hospital Staff

Dr. Stuart P. Seaton, a graduate of the University of California Medical School, and postgraduate of the San Francisco County Hospital and St. Mary's Hospital, San Francisco, has become a member of the staff of Davis Hospital, Statesville, N. C.

Dr. Seaton has been a medical missionary doing princi-

pally surgery.

Since his return to the United States early in 1941 he has been doing postgraduate work in surgery in hospitals in New York and New Jersey and for the past year at Princeton Hospital, Princeton, New Jersey.

Dr. William T. Graham, Richmond, has been reappointed to the Virginia State Board of Health, of which body he has been a member for 30 years, president the greater part of the time. The Richmond News-Leader pays high tribute:

"The wise and proper action of the Governor, which was taken for granted, is doubly welcome because it gives many Virginians an opportunity of expressing their appreciation of this unique man. In any list of the half dozen most beloved and useful citizens of the Old Dominion, Dr. Graham's name will rank with the foremost. This is not merely because of his high professional distinction, nor even because of the immense work he still is able to do. Above everything else, the manner of the doing distinguishes him. Difficult as it would be to find another orthopaedist who has achieved so much with the finest professional skill, it would be immeasurably more difficult to find a man who had the same understanding of the human heart, the same affectionate sympathy, the same devotion. Virginia is proud of him, of course, but Virginia speaks in a more intimate and exalted spirit when she thanks God for him.

Dr. Tom A. Williams, formerly of Washington, who will be remembered by Fellows of the Tri-State Medical Association as a regular attendant on its meeting in former years, is now at Asheville, in charge of the Mental Hygiene Clinic of the city.

Dr. William Allan used to say when he attended a Tri-State Meeting he sat up all night every night having Dr. Williams post him on everything which had happened in

medicine since the last meeting.

Some twenty years ago Dr. Williams went to England, and was in practice at Tunbridge Wells for a decade; then to France, from which country he escaped just ahead of the Germans and in such haste as to lose most of his baggage. Since then he has been in practice at New Orleans.

In addition to his conduct of the Mental Hygiene Clinic, Dr. Williams is engaged in practice as consultant in neurology and psychiatry.

Dr. Alfred Chambers Ray (B.A., Randolph-Macon 1893; M.D., Medical College of Virginia 1897), for 30 years resident physician at Randolph-Macon College, Ashland, Va., has been appointed resident physician to the City Home, Richmond.

The Virginia State Hospital Board has approved the appointment of Dr. Paul Zwick, of Bristol, as a physician at the Southwestern State Hospital, and Dr. Edward Gorski, of New York, as dentist.

DR. FRANK H. REDWOOD, of Norfolk, has been appointed by Governor Darden a member of the State Hospital Board for a term of four years.

MARRIED

Miss Betty Jane Wallerstein and Dr. Maurice Vitsky, both of Richmond, June 27th. Dr. Vitsky is a graduate of the Medical College of Virginia and has recently completed his internship at Gallinger Municipal Hospital in Washington. After spending their honeymoon at Virginia Beach, he will enter the Navy as lieutenant (jg).

Mr. and Mrs. Raleigh Cox Powell, of Jerusalem Plank Road (Va.), announce the marriage of their daughter, Hilda Wilkins, to Dr. Robert Charles Livingstone, Thursday, June 17th. After their wedding trip, Dr. and Mrs. Livingstone will make their home in Richmond.

Dr. Robert James Vanderline, of Rochester, New York, and Miss Margaret Walker Williams, of Wytheville, Virginia, were married on June 12th. Dr. Vanderline is serving an interneship in Duke Hospital.

Miss Edith Taliaferro, Staunton, and Dr. Samuel B. Pole, III, Washington, were married June 17th.

DIED

Dr. Wiley C. Johnson, 56, of Canton, N. C., died at the Norburn Hospital, Asheville, June 10th, following an illness of one week. The day of the burial the corse lay in state for two hours and thousands from every walk of life filed by with bowed head. Honorary pallbearers were members of the Haywood County Medical and Dental Society, and a member of the board of stewards of Central Methodist Church.

Dr. Johnson attended the University of North Carolina and the Medical School of Tulane University, graduating from the latter school in 1912.

As the regular meeting of the Canton Civitan Club was being held, word was brought of the death of Dr. Johnson. Immediately the club ordered that a suitable resolution be prepared and then adjourned. One of the items of the resolution is, Resolved, That in the passing of Dr. W. C. Johnson Canton has lost its best citizen.

Dr. T. A. Hathcock, 77, of Norwood, N. C., long prominent in religious, social, civic, fraternal and political life of Stanly County, died in Memorial Hospital, Charlotte, June 16th, of cerebral hemorrhage following an operation.

Dr. Hathcock was a native of the county in which he spent his life. He received his education at Trinity College, University of North Carolina and University of Maryland. When the United States declared war on Germany in 1917, he was one of the first to volunteer. He served with the rank of major in the medical corps for the duration of the war.

Dr. Hathcock was superintendent of his church's Sunday school for a great number of years, and in church and political, as well as medical circles, was known as one of the most effective public speakers in the State.

Dr. John Eugene McLaughlin, of Statesville, died on June 24th at the age of 80. He had spent the last few years at Troutmans, in the home of his son-in-law, Dr. J. S. Talley. For twenty years in his earlier professional life Dr. McLaughlin lived at Cool Springs, in Iredell County, and attended to a large general practice. After his removal to Statesville he remained a busy family physician until incapacitated by advanced age. For twenty-five years he served as Secretary-Treasurer of the Iredell-Alexander Medical Society. He was a graduate of the

School of Medicine of the University of Maryland in the class of 1886.

Dr. Willard B. Robinson, 85, retired physician, died July 4th at his home in Richmond. Dr. Robinson was a native of Goochland County. He was educated at Randolph-Macon College, the Medical College of Virginia and the Kentucky School of Medicine, Louisville. He practiced for 16 years at Tappahannock, then moved to Richmond, where he continued his practice of medicine until his retirement 15 years ago.

Dr. A. M. Byrd, 75, a native of Ware Springs, Va., died at St. Luke's Hospital, Bluefield, W. Va., July 4th after a week's illness. Dr. Byard was a graduate of the University of Virginia and the Medical College of Virginia. For a time he was on the staff of the Federal Hospital at Hot Springs, Ark.; later of the Mattie Williams Hospital at Richlands, Virginia; and he was located at North Fork for twelve years. He had practiced at Bluefield for the past five years.

Dr. Charles B. Woodley, 82, died June 19th after an illness of several days. He took his medical training at Bellevue Hospital Medical College. Dr. Woodley was a native of Kinston, N. C., and practiced there for 58 years. He was a member of the staff of Memorial General Hospital. Surviving are his widow, a daughter, Mrs. Vance Peery, a stepson and two grandchildren.

Dr. Karl Landsteiner, 75, whose discovery of human blood groups won him the Nobel Prize in 1930, died June 26th of heart disease at the hospital of the Rockefeller Institute after an illness of 48 hours. The Vienna-born scientist was a member emeritus of the Rockefeller Institute for Medical Research which he served actively from 1922 to 1939. His blood classifications were the result of 30 years of intensive work.

Dr. Harry C. Stillwell, president of the staff of the Rahway (N. J.) Memorial Hospital, died June 14th at Macon, Georgia. Dr. Stillwell was a native of Webster, N. C., and was a former city physician and a member of the Union County Medical Society, New Jersey. He studied at the University of North Carolina and at Jefferson Medical College.

Dr. Sterling Blackwell Pierce, 69, prominent physician of Weldon, N .C., died at Duke Hospital June 23rd, after an illness of several months.

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CHARLOTTE, N. C.



University of Virginia

The Baltimore-Washington Dermatological Society held a meeting at the University of Virginia Hospital on Saturday, May 29th. The following cases were demonstrated by the staff of the Department of Dermatology and Syphilology (Drs. D. C. Smith, J. C. Shafer, P. E. Jones, A. J. Crutchfield and P. A. Booker): Dermatomyositis, Linear lichen planus, Erythroplasia of Oueytat, Molluscum contagiosum, Keratosis follicularis, Granuloma annulare, Lichen planus erythematosus, Glossitis rhombica mediana, Lymphogranuloma inguinale, Lichen sclerosus et atrophicus, Primary tuberculosis complex-face, Erythema induratum, Monocytic leukemia cutis, Porokeratosis, Pemphigus in a child, Gaucher's disease, Rocky Mountain spotted fever, Lupus vulgaris, Xeroderma pigmentosa, Addison's disease, Erythema scarletenoides; cases of primary, secondary and late syphilis. There was a demonstration of fever therapy in neurosyphilis with foreign protein intravenously. Dr. Alfred Chanutin, Professor of Biochemistry, previewed the subject of lipid metabolism as it relates to psoriasis.

Tuberculosis of the Middle ear, correctly thought to be secondary to pulmonary tuberculosis, occurs in 5 per cent of lung phthisis cases. Some of these patients have also had laryngeal tuberculosis which makes the prognosis more serious. It appears occasionally in quiescent cases. The onset is usually insidious and painless, or with only dull aching. In long-standing cases with secondary infection, pain and soreness may become definite. Acute pyogenic infections of the middle ear may occur in tuberculous patients.—G. E. Wilson, Saranac Lake, N. Y., N. Y. Jl. Med., Apr.

Dr. F. D. Woodward attended the Council Meeting of the American Laryngological, Rhinological and Otological Society in New York on June 1st. As a member he attended the examinations of the American Otolaryngology Board held in New York on June 2nd, 3rd, 4th and 5th.

Dr. M. K. Humphries took the American Board of Otolaryngology Examination on June 2nd.

On June 6th, 7th and 8th, Dr. Robert V. Funsten attended the meeting of the American Orthopedic Association in New York. A report was heard from the Investigation Committee of the Sister Kenny Treatment of Infantile Paralysis.

MEDICAL COLLEGE OF VIRGINIA

Dr. Tom Spies, Hillman Hospital and Clinic, Birmingham, Alabama, and associate professor of medicine, University of Cincinnati, was a recent college visitor.

Dr. Lynn DeF. Abbott, assistant professor of biochemistry, has joined the armed service. He will be replaced on July 1st by Dr. Miriam Clarke Madison.

Dr. Leroy Smith, an alumnus of the class of 1936, has been appointed associate in surgery and oral surgery. Dr. John Reed, a graduate in the class of 1928, has also been appointed associate in surgery.

Enrollment for the session which began April 5th is: medicine, 313; dentistry, 148; pharmacy, 61; nursing, 182. In the school of pharmacy a freshman class will not enter until July 5th. The school of nursing admitted a class in February and will admit classes in June and September.

Dr. William T. Sanger, president, made the annual commencement address at Madison College, Harrisonburg, Virginia, on June 7th.

Dr. Claude Neale, assistant professor of psychiatry, is spending the month of June visiting various medical schools, looking over their departments of psychiatry. This was made possible by a travel grant from the Rockefeller Foundation. Although formal contract has not been signed, it is anticiapted that the army and navy student training program will become effective for the army on June 20th and for the navy on July 1st. Students under the army training program in the schools of medicine and dentistry have received physical examinations and will go to Camp Lee for four days prior to June 20th for processing. The institution has not received definite instructions from the navy on the processing of its members.

OF INTEREST TO DOCTORS

THE INTEREST IN LATIN AMERICAN affairs, particularly in medical circles, and the exchange of courtesies between medical men, has led to a greater desire on the part of our doctors to speak the Spanish language. Professional men are taking up Spanish as a second language and to further that interest the D. Appleton-Century Co. of New York has published its New English-Spanish and Spanish-English Dictionary by Arturo Cuyas, revised and enlarged by Antonio Llano. This dictionary in its latest edition is printed with a new type arrangement, new plates and contains more than six thousand modern words and twenty-five thousand acceptations, idioms and technical terms not found in any similar work. This is the only dictionary of its kind that includes so many technical, colloquial and scientific terms, so important to the doctor who needs a method to promptly acquaint him with foreign terms.

THE NATIONAL REHABILITATION ASSOCIATION, INC., with headquarters in Roanoke, Virginia, is a national organization dedicated to the Welfare of Physically Handicapped persons of all types and at the present time is largely concerned with the promotion of legislation in favor of the physically handicapped. A great many men will need help in years to come and the efforts of this Association has met with favor in many states where it has set up Committees and Directors.

KENNETH A. KOERBER, A.B., M.D., Medical Director of Cramp Shipbuilding Company, in Philadelphia, Pa., has been doing some exceptionally nice work in the rapid rehabilitation in shipyard injuries. In this work he has evolved a group of interesting techniques which proved their value by lessening the number of man hours lost in this vital war industry.

AMONG OUTSTANDING EXHIBITS at the Fourth International Assembly in New York were the Veterans Administration, Washington, D. C., of which Charles M. Griffith is the Medical Director, showing charts with pictures and descriptions of the routine and special measures in bibliotherapy, occupational therapy, and physical therapy used to aid in the treatment of Veterans Administration Hospitals.

The Medical Detachment of the 17th Regiment, New York State Guard, of which Major R. Donald Beck is Regimental Surgeon, set up a regimental aid station. The personnel consisted of members of the medical detachment who were in daily attendance.

The New York State Department of Social Welfare, Bureau of Services for the Blind, with Ruth B. McCoy, had a very fine exhibit.

A large number of motion pictures in color were shown on Cranio Cerebral Surgery, Bone and Joint Surgery, Plastic Surgery and War Surgery.



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BOOKS

THE PRINCIPLES AND PRACTICE OF MEDICINE (Originally written by Sir Wm. OSLER, Bart., M.D., F.R.C.P., F.R.S.), by Henry A. Christian, A.M., M.D., Hon. Sc.D., Hon. F.R.C.P. (Can.), F.A.C.P., Hersey Professor of the Theory and Practice of Physic, Emeritus, Harvard University. 14th semicentennial edition. D. Appleton-Century Company, Inc., 55 West 32nd Street, New York City, 1942. \$9.50.

Fifty years ago the first edition of Osler's *Practice of Medicine* was published, and for a half-century this book has been accorded first place in English-speaking countries. Editions since the author's death have been revised by a number of eminent physicians, each well worthy of the honor; but none more so than the great doctor who gives us the semi-centennial edition.

It was said of all the editions from the pen of the original author that the information as to diagnosis was the best to be had, but complaints were made that on treatment the book was skimpy. The reason was, what was known on treatment was skimpy, and the author's honesty would not permit him to endorse unsubstantiated claims.

Since Sir William's death the field of reliable medical therapeusis has been broadened, tremendously broadened. So it has been made possible for the present edition to carry instructions for the cure of a great number of disease conditions for which earlier editions could offer little.

The semi-centennial edition measures well up to previous editions in setting forth the knowledge of the medicine of the day. No higher praise could be paid.

THE ANATOMY OF THE NERVOUS SYSTEM, by STEPHEN W. RANSON, M.D., Ph.D., Formerly Professor of Neurology and Director of Neurological Institute, Northwestern University Medical School, Chicago. Seventh Edition, Revised. \$20 pages with 408 illustrations, some of them in color. W. B. Saunders Company, Philadelphia and London, 1943. \$6.50.

The first edition and all subsequent editions have paid a good deal of attention to the physicology of the nervous system, and this has proved an extremely attractive and useful feature of the work. This edition has enlarged and expanded this feature. The extensive revision of the sections on the cerebral cortex, the sympathetic nervous system and the cerebellum made necessary by newer developments, with clinical applications keep the book up to its high mark of practical usefulness.

A TEXTBOOK OF CLINICAL NEUROLOGY, by Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, New York; Neurologist, The Mount Sinai Hospital; Consulting Neurologist, The Montefiore and Rockland State Hospitals, New York. Fifth Edition, Revised. 840 pages with 162 illustrations. W. B. Saunders Company. 1943. \$7.50.

Even though it has been only four years since the appearance of the last edition, the popularity of the work and the many advances made in that interval required that a new edition be got out.

The idea behind the book from the beginning was to make it so free of redundancies and of abstrusities as to encourage its use by the non-specialist. The author shows that he still so purposes and that he achieves his aims. Wechsler's will retain its place as a popular and useful text.

REHABILITATION OF THE WAR INJURED: A Symposium edited by WILLIAM BROWN DOHERTY, M.D., and DAGOBERT D. RUNES, Ph.D. Philosophical Library, Inc., Publishers, 15 East 40th Street, New York City. 1943. \$10.00.

Subjects covered are:

NEUROLOGY AND PSYCHIATRY

The Sequelae of War Head Injuries; Rehabilitation of, and after Head Injuries; Speech Disorders and Their Treatment; Rehabilitation after Injuries to the Central Nervous System; Psychological Reactions to Injury; Malingering; Resocialization.

RECONSTRUCTIVE AND PLASTIC SURGERY

Plastic Uses of the Tubed Pedicle Flap; Plastic Surgery; Refinements in Reconstructive Surgery of the Face; Relation of the Early Care to the Final Outcome of Major Face Wounds in War Surgery; The Correction of Scars; Burns and Their Treatment; Failures in Rhinoplastic Surgery—Causes and Prevention; Reconstruction About the Nasal Tip; Nasal Atresias; A Review of Reconstructive Surgery of the Face; Free Skin Grafts Versus Flaps; A New Method for Rebuilding a Lower Lid; Orbital Implants; Jaw Reconstruction; Nursing in Plastic Surgery and Maxillo-facial Injuries; Reconstructive Otoplasty.

ORTHOPEDICS

The Problem of Amputation Stumps in Relation to Limb-fitting; The After-care of Amputations; Leg Lengthening; Arthroplasty of the Hip—A New Method; Transplantation of a Toe to Replace a Thumb.

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- 1. Editorial: JAMA 115:862, 1940.
- 2. Halpin, L. J.: Intnt'l. All. Corr. Club Letters, 1943.
- 3. Clarke and Hanna: J. of Allergy 13:599, 1942.
- 4. Jorstad, L. H.: JAMA 90:26, 1928.
- 5. Steinberg, I. R.: Sem. med. 45:945, 1938.

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Legal Aspects of Rehabilitation

Problems of Rehabilitation Legislation; Comensation for Injuries.

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Vascular and Neurologic Lesions in Survivors of Shipweck; I. Immersion-Foot Syndrome Following Exposure to Cold; II. Painful Swollen Feet Secondary to Prolonged Dehydration and Malnutrition.

All these subjects are well covered, and the greater number of the measures described are applicable to cases arising in civil as well as military life.

Every surgeon and every practitioner of general medicine should have a copy.

MILITARY SURGICAL MANUALS IV: ORTHO-PEDIC SUBJECTS, prepared and edited by the sub-committee on Orthopedic Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council, George E. Bennett, Chairman. W. B. Saunders Company, W. Washington Square, Philadelphia and London, 1942.

The covering of this subject in this series is up to the excellent standard set by previously published numbers.

Under Unusual Fractures we have chapters on highlights of treatment, x-ray evidence, preoperative care, mechanics of operation, after operation, and local anatomic treatment.

Injuries of the Spinal Column are discussed under subheads: compression fractures, special fracture groups, dislocations, fracture dislocations.

Compound Fractures of the various sorts and degrees are given a separate section.

Osteomyelitis is classified and treated of under the heads: acute hematogenous, localized hematogenous, chronic diffuse hematogenous osteomyelitis; subacute infections of bone, typhoid osteomyelitis, chronic osteomyelitis, and special operations.

OBSTETRICAL PRACTICE, by ALFRED C. BECK, M.D., Professor of Obstetrics and Gynecology, Long Island College of Medicine; Obstetrician and Gynecologist-in-Chief, Long Island College Hospital, Brooklyn. More than a thousand illustrations; third edition. The Williams & Wilkins Company, Mt. Royal & Guilford Aves., Baltimore. 1942. \$7.00.

This new edition has the same order as that of the two previous editions, an order which is to a great extent responsible for the popularity which the book has attained. The various processes and their complications are presented in the time order of their development. The drawings are well chosen and executed and serve the purpose of supplementing the text in a way to leave little to be desired. The section on operative obstetrics has been rewritten entirely. This revision brings this textbook up to the mark of supplying the best of obstetric knowledge of the day in an attractive, plain way.

The section on the management of pregnancy is admirable in its simplicity as in its completeness. It is not assumed that all confinements can or should be conducted in hospitals, and detailed directions are given for the arrangement for and conduct of home deliveries.

KNOW YOUR ULCER, by BURRILL B. CROHN, M.D., F.A.C.P. Sheridan House, New York. \$2.50.

The author of the preface regards peptic ulcer as a life-time disease. He agrees with most of those having much experience of the disease condition that it is not so much what a person eats as how much he worries that determines the frequency of the flare-ups. As he says it takes time to give the proper instruction to a patient with ulcer; and the author has written a book which the patient can purchase and read and re-read at his leisure to his great profit.

THE WAR ON CANCER, by EDWARD PODDLSKY, M.D., Staff Member, Fifth Avenue and Flower Hospitals, New York; Faculty Member, New York Medical College. Reinhold Publishing Corp., 330 West 42nd St., New York. 1943. \$1.75

In choosing a title the author did well. Several years ago somebody wrote a book on "The Conquest of Cancer." There will be plenty of time to write under that title when cancer is conquered. Then there is the "Society for the Control of Cancer." The object is not to control cancer, but to destroy it. We aim to control children, automobiles, production and distribution of goods. "The War on Cancer" is a good title. And the text is written in good English—a rarity.

Some would say the book paints the prospects of the cancer patient in too rosy colors. Few will agree with all said about food and cancer. The captious will object to "doping," "the microscope was perfected," and the statement that the "Adam's apple" is the hyoid bone.

A readable and, on the whole, a useful book. This review copy has been passed on to our Public Library.

Quarterly Review of Obstetrics & Gynecology, with an Editorial Board made up of 28 of the most eminent in this specialty in the country, has made its initial appearance. The foreword tells us that for long a need has been experienced for an abstract of Obstetrics and Gynecology in the English language, and that the present non-availability of those in other languages makes this need acute?

Volume 1, No. 1, a handsome book of 176 pages, carries abstracts of some 200 carefully chosen articles from a great number of journals. This volume strongly testifies that the need has been met.

Published by Quarterly Review of Obstetrics and Gynecology, 314 Randolph Place, N.E., Wash-

ington, D. C.

CHUCKLES

"Rastus, that's a fine garden you have there."

"Yah suh, Pahson."

"You must thank the Almighty for that."

"Pahson, did you ebbah see dis piece of ground when de Almighty had it all to Hisself?"

Mr. Bronson died very suddenly and an important business letter was left unmailed.

Before sending it off, his secretary, who had a passion for explanatory detail, added the following postscript below Mr. Bronson's signature:

"Since writing the above I have died."

"I never felt so punk in all my life."

"Do any drinking last night?"

"Yes, and when I went to bed I felt fine. But when I woke up I felt terrible. It was the sleep that did it."

"But how on earth did you manage to keep the cannibals from eating you?"

"It was, easy. You see, I have a cork leg. As soon as I landed I pulled up my trousers, cut off a slice and gave it to the chief. He decided I wasn't worth cooking."

"What is more refreshing than a cold shower before breakfast?" gushes a health-columnist.

"Easy, Brother. A hot shower before breakfast; or even better, no shower at all and a breakfast of strawberries and thick cream, broiled mackerel and smoked sausage, waffies and pre-war coffee—in bed."

HE KNEW HIM

Stepping from a luxurious car, the expensively dressed middle-aged woman haughtily approached the sentry.

"I wish to see my son, Montmorency Montpelier," she said.

"Who?" asked the sentry.

"Montmorency Montpelier. He is a tall, handsome, blueeyed young man, with delicate—"

"Oh, sure, I know who you mean," interrupted the sentry and, turning toward camp, he shouted:

"Hey, Stinkee-ee-ey!"

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JAMES M. NORTHINGTON, M. D., Editor

VOL. CV

AUGUST, 1943

No. 8

Burn Therapy Founded on Cellular Stimulation*

THOMAS F. P. WALSH, M.D., Chicago, Illinois,

AND

LEO G. NUTINI, M.D., Cincinnati, Ohio

From the Laboratories of the Institutum Divi Thomae

MODERN WARFARE suddenly has brought new and greater emphasis on the healing of wounds and particularly burns. Although the problem of the stimulation of wound healing long has been recognized by medical men as one of major importance, the principal objective has not been the production of agents capable of accelerating the healing of wounds. Major efforts have been concentrated primarily on rendering and maintaining the wounds sterile by such substances as would prove least harmful to the tissues themselves; on the exclusion of air and application of local anesthetics for analgesia; and on the coagulation of proteins to prevent absorption of toxins and loss of fluids.

The dearth of knowledge of the cause and mechanism of wound healing is largely responsible for the lack of progress in this important field of medicine.

An ideal wound healing agent should embody the following characteristics: It should stimulate proper growth of epithelium; stimulate proper growth of connective tissue; restore normal metabolism; have germicidal powers and at the same time no injurious tissue effects; possess an analgesic action; produce no systemic ill effects; and should be easily applicable. It was with these requisites in mind that research was initiated in the laboratories of the Institutum Divi Thomae in 1935, on the problem of wound healing.

It is the purpose of the present paper to deal principally with the local treatment of burns, however, a great deal of the discussion applies equally to the general problem of wound healing. In considering burns, it must be borne in mind that, except for such important variables as fluid loss, toxemia, early shock, etc., burns do not differ in any respect from other wound lesions and the principles governing the healing of burns are the same as those governing the healing of other wounds.

Although in no wise minimizing the importance of supportive treatment and constitutional management, this paper has been confined principally to the local aspects of the problem.

Some of the more widely recognized forms of local treatment are herein briefly described, not to condemn their use, but to point out their advantages as well as their limitations.

Coagulation Therapy: Among the foremost methods of local therapy of burns is that of coagulation, which had its origin in 1925 with Davidson's¹ introduction of tannic acid. Davidson based his procedure on two premises: 1. Tissue proteins could be precipitated forming a coagulum which would prevent absorption of toxins and loss of fluid; and 2. This coagulum would afford both an analgesic and protective covering for the burned area. The validity of these premises has since been argued pro and con, but whatever the action, most

^{*}Prepared for presentation to the 1943 meeting of the Tri State Medical Association.

observers agree that tannic acid has succeeded in lowering the incidence of shock and burn mortality beyond that attained by any previous type of treatment.

Since the introduction of the tannic acid treatment, coagulation therapy has been extensively investigated and such agents as combined tannic acid and silver nitrate, cutch extract,2 tactocut,3 ferric chloride,4 gentian violet,5 brilliant green,6 acriflavine. 7 mercurochrome. 8 dichloramine T. 3 triple dyes, and many others have at one time or another assumed important roles as antiseptics and coagulants. Wide use has demonstrated the limitations of these agents with the result that many of them have assumed minor roles. Tannic acid remains the one notable exception to this rule, but recently it too has received unfavorable comments. particularly in England^{10 11} and its use has been condemned in the treatment of certain burns, especially those of the face.

Without question tannic acid has a place in the treatment of burns; however, most observers agree that it should not be used indiscriminately.

It seems apparent that any agent which injures or destroys living cells, which retards epithelial growth¹² and which encases a slough or loose tissue, invites slow healing, sepsis, abscess formation and, in the end, unsightly cosmetic results, such as scars, contractures or keloids. Coagulation therapy in general is susceptible to such indictments. Our general observation has been that it may be used with success in first- and second-degree lesions with the exception of those of the hands and face. Furthermore we feel that it is contraindicated in all deeper lesions, regardless of their location, because of the frequent occurrence of the complications listed above.

Picric Acid: Picric acid and its derivatives, particu'arly butesin picrate, have also held a prominent position among the agents used for the local treatment of burns. It is the opinion of the authors that they are of benefit only in minor burns and are too toxic to permit the extensive treatment required by major burns. Severe constitutional reactions have been witnessed on three occasions by one of the authors (Walsh) and the literature cites numerous other experiences.¹³ ¹⁴

Paraffin Gauze: Recent years have seen the revival of the age-old remedy of paraffined gauze, ¹⁵ an agent which possesses none of the requisites essential for tissue repair but merely provides a protective covering and relies solely on the inherent ability of the lesions to heal. It has been our experience that the benefits have been manifested only in minor burns.

Fish-Liver Oils: Still more recently, fish-liver oil preparations (particularly those of cod-liver oil) have dominated the field of local therapy. The advantages of this therapy have been ascribed pri-

marily to the capacity of the oil to stimulate granulation and epithelization, and secondarily, to its bactericidal effects. The latter effects are at best mild. The former is without doubt the rationale of the whole therapy. That there is definite benefit in this type of treatment is without question. The questionable point arises in the matter of the factors supposedly responsible for these beneficial effects. Independently both Lohr and Unger16 and Getz17 showed that the stimulatory substance is found in the non-saponifiable fraction of the oil. This contains among other things, vitamins A and D, and it is to these two substances that most observers ascribe their good results in treating wounds. However, according to Getz, neither of these two substances is stimulatory in itself17 or when combined, except in combination as found in cod-liver oils. A possibility which deserves serious consideration is that of a "contaminating" growthstimulating factor present in the non-saponifiable fraction. Cook and Fardon18 state that the proliferation-promoting activity, while possibly accumulating in the vitamin containing fractions, is not attributable to the vitamin content. The experiments of McJunkin and Matsui¹⁹ on the epithelial regenerative activity of the fat soluble portion of rat tail scrapings seem to be in agreement with this view. Getz¹⁷ appears to have demonstrated that the healing effects of cod-liver oil in experimental tuberculous lesions reside neither in the fatty acids nor in the vitamin A and D contents, but in an unknown factor in the non-saponifiable residue.

Sulfhydryl Compounds: Recently, due primarily to the researches of Hammett and Reimann, compounds containing an SH radical have assumed some prominence in the treatment of burns. One Acording to Reimann to the treatment of burns that the stimulated with this type of treatment, the stimulation of granulation tissue being greater than that of epithelium, a fact which necessitates the frequent use of silver nitrate. In addition, the frequent occurrence of pain and burning sensation following its application of large burns.

Sulfonamides: Since the advent of the present war, the sulfonamides, either alone or combined, have found extensive use in the treatment of burns. The ever-increasing literature indicates that these may prove a valuable adjunct to burn treatment in that they appear to decrease the incidence of infection. Their true value can be ascertained only with the passage of time.

In addition to the treatments herein enumerated, many other remedies appear in the literature. To describe and classify all is unnecessary in this paper, for excellent reviews, both clinical and experimental, on burn therapy may be found in the works of Lambret and Driessens²³ and Fasal.²⁴

STIMULATION OF PROLIFERATION

Despite limited progress in wound healing, the problem of stimulation of cell proliferation has been a subject of study for many years. As early as 1858, Virchow²⁵ suggested that healing was the result of a direct stimulation of the cells by traumatism. This work was followed by other researches which led to the development of the Hormone Concept of Wound Healing, which in brief, maintains that the proliferation of cells following an injury is a response to a chemical stimulus provided by injured cells. Many such supposed "stimulating factors," for example, the "trephones" of Carrel²⁶ and the SH radical of Hammett²⁰ have been tried on clinical and experimental wounds with reported good results in some instances.

It had never been demonstrated that these natural cellular materials are produced or released as a result of injury instead of being merely products of cellular disintegration. With the development of techniques in our laboratories for the controlled injury of cells under quantitative and reproducible conditions, we were able, for the first time, to conduct a series of experiments²⁷ ²⁸ ²⁹ which indicated that cells subjected to injury secreted or released proliferation-promoting substances as a direct response to the injury. Moreover, these substances were not solely disintegration products, but appeared to be hormone-like substances secreted by the injured living cells into the intercellular fluids.

Since our early experiments, we have been able to obtain these proliferation-promoting materials from numerous types of cells and by a variety of methods of injury. While the materials obtained from these varied sources all possess a characteristic in common, that of proliferation-stimulation, they differ from one another in that they have specificity for one type of cell. This specificity is not absolute, however, for factors yielded by one type of cell in some instances will stimulate the growth of other types of cells. Cook and Kreke³⁰ ^{31 32} and Fardon and Sullivan³⁵ have shown that some growth-stimulating factors are fat-soluble while others are water-soluble.

STIMULATION OF RESPIRATION

It is indeed surprising that little attention has been given to the study of the metabolism of wound lesions when we recall that growth is dependent on energy, a function regulated by the metabolic processes. It would seem that much of the answer to the wound-healing problem would reside in these fundamental, physiologic processes.

In a series of experiments employing the Warburg manometric technique, Gaza and Gissel³⁴ found that immediately following injury, a rapid fall in metabolism occurs, corresponding to the degree of tissue destruction, followed by a rise above normal as repair begins with a gradual decline to

normal on complete healing. Moreover, it has been reported by members of our laboratories³⁵ ³⁶ and others³⁷ that respiration may be lowered in a number of pathologic conditions or by toxic agents and that its measurement may serve as a criterion of the vitality of the tissues.

In experiments conducted along much the same lines as those used in investigations of the growth stimulators, Fardon and others^{38 39 40 41} were able to obtain from cells materials which stimulated the respiration of other cells. Like the proliferation stimulators, they too possessed a certain degree of specificity. However, factors produced by one type of cell frequently will stimulate other types of cells, although usually to a lesser degree. For example, we have found that a respiration-stimulating factor produced from yeast (Saccharomyces cerevisiae) is effective in stimulating the respiration of human epithelium.⁴²

STIMULATION OF GLYCOLSIS

In addition to the growth and respiration stimulating factors, a third family of cellular stimulants of biological origin exists. These stimulate fermentation or glycolysis.

BIODYNES

To these natural cellular proliferation and metabolic stimulators we have affixed the group name "biodynes" from the Greek words "bios" and "dyne," meaning broadly "life-force." A biodyne is a biological substance isolated from or produced by cells which acts in minute quantities directly on cells to stimulate their proliferation or metabolism. From this definition and the definition of vitamins. it is apparent that certain chemical substances may act both as biodynes and as vitamins, stimulating cellular activity by direct action on cells and indirectly by acting as nutritional factors for the animal body. Examples would be certain members of the vitamin B complex which are nutritive factors but also have the power of stimulating the proliferation of certain microörganisms and some also are known to act as part of the cellular respiration mechanism. Little is known as yet of the chemical nature of these materials, since until recently major efforts have been directed primarily to the physiologic aspects of the problem; i.e., the production of these materials and their effect on cells rather than to their nature and mode of action. However, certain chemical information, recently reviewed in a paper by Cook and Fardon⁴³ is available.

REDUCTION OF TISSUE TOXICITY OF GERMICIDES

For some time, we have been interested in both the problem of natural germicides and the reduction of tissue toxicity of some of the existing germicides. Cook and his coworkers⁴⁴ have demonstrated that, by the proper selection of a germicide,

and with the proper selection of a respiratory stimulating agent, the combination results in a germicidal agent which is completely non-toxic for the tissues while still retaining its high germicidal powers. The effect of phenylmercuric nitrate on the respiration of skin as determined by the Warburg manometric technique was chosen as the criterion for measuring its toxicity for tissue in these experiments, since this method has become widely accepted.35 36 45 The germicidal effect was tested by the usual basteriological methods.

BIODYNE OINTMENT

The value of incorporating biodynes in an ointment for the treatment of wounds was apparent. In our recent ointments, a fat-soluble growth stimulator from liver and a water-soluble respiratory stimulator from yeast are employed. Inasmuch as the larger percentage of the factors are fat-soluble, it became desirable to use petrolatum as a base material for carrying the ingredients.

By properly combining the proliferation-stimulating factor, respiratory factor, and germicide, an ointment having many of the properties of the ideal wound healing agent results. A typical combination of these factors is the one which has been used in the clinical investigations reported in this paper:

Falba	2.850%
Light Mineral Jelly	45.000
Hydrous Lanolin	3.045
Phenylmercuric Nitrate	0.005
Fish Liver Oil (source of growth pro-	
moting factor)	3.000
Oil of Thyme	
Amber Petrolatum	45.000
Skin Respiratory Factor from Yeast	
Cells	1.000

This ointment has a pronounced analgesic action, whether due primarily to the exclusion of oxygen by the base material or to a combination of this effect and that of the metabolic stimulating factors has not been determined.

TREATMENT OF WOUNDS WITH BIODYNE OINTMENT

During the past five years, we have conducted numerous experiments on the effect of biodynes and Biodyne Ointment on tissue growth and metabolism and animal wounds. With the knowledge that we had produced an ointment which stimulated growth of tissue, restored metabolism, and possessed germicidal activity while remaining nontoxic to tissues, investigations were transferred to the clinical field. The investigations reported in this paper were confined to burns because it was felt that the difficulty encountered in healing the surfaces of these extensive lesions was due to the fact that an enormous number of cells were destroyed rather than merely injured, with the resultant production of a marked deficiency of respiratory and proliferation-stimulating materials. If such were the case, Biodyne Ointment should prove extremely useful by compensating for these lost natural stimuli.

In our clinical investigations due consideration has been given to the numerous elements capable of causing burns as well as to the character of the burn lesions, since the lesions produced are typical of the exciting factor and frequently necessitate refinements in technique to meet individual differences.

In our investigations we have departed from the usual classifications employed for the description of burns and have adopted Dupuytren's classification with the view that it is somewhat more precise for correlating histologic studies. According to this classification, burns are divided into six groups:

- 1. Erythema
- 2. Dermatitis and vesicles
- 3. Partial destruction of skin
- 4. Destruction of skin to subcutaneous tissue
- 5. Destruction of all superficial structures and part of muscular laver.
- 6. Carbonization of whole thickness of muscle The following summary covers one hundred of

the severest of the burn cases treated with Biodyne Ointment by one of the authors (Walsh) in the past several years. All of these burns range from extensive second to fifth degree:

Cases Treated-100

Sex.	
Males	59
Females	41
Race:	
White	8.3
Black	17
Age Groups:	
Infants—to 10 years	19
10-20 years	20
20-30	12
30-40	18
40-50	31
Causative Elements:	
Wet-water, petroleum and foods	47
Dry-hot metal and tar	13
Flame	14
Chemical	5
Electric	6
Solar	5
Therapeutic	5
Others	5

Clean Cases-Cases seen within 24 hrs. of burn and in which first-aid was administered by us.

Duration of Treatment

			Ca	ases
1	week	***************************************		10
2	weeks			21
3				4
4				3
- 5				1
6				1
7	*******	***************************************		2

Total number of Clean Cases-42

Late Cases—Cases seen after 42 hrs. (ranging from 1 week to 8 months). A great percentage of these were infected

Duration of Treatment

	C	ases
1	week	15
2	weeks	15
3	***************************************	9
4		9
5	***************************************	3
6	***************************************	3
7	***************************************	2
8	***************************************	1
16		1
		-

Total number of Late Cases-58

Percentage of body surface involvement in the 100 cases treated 5-35%

Incidence of minor infection in the Clean Cases 4%

Cases requiring skin grafting 0

Mortality (not included in the tabulation)—1 died of a complicating heart condition and another died before local treatment could be administered—Total 2

Typical examples of Biodyne Ointment treated cases are seen in the following histories and their accompanying photographs.

CASE NO. 1-W. AGED 47

On February 7th, 1941, this man suffered a severe burn when a lye compound with which he was cleaning steel boilers accidentally splashed into his face and over his

Examination: Burns varying in depth from ordinary first degree to the full thickness of the skin, penetrating in one place even to the periosteum of the frontal bone. The area involved included the entire face, forehead, ears, neck, forearms, wrists and hands.

Initial Treatment (February 7th): After thorough removal of the crusted chemical with tissue-forceps, the lesions were thoroughly cleansed with liquid white soap and

water and Biodyne Ointment applied.

Course: With the exception of the lesion on the fore-head, all areas were completely healed, without scarring, in 14 days. The former lesion, clearly evident in Figure 1 (picture taken seven days after the accident) was escharotic in character, penetrated to the periosteum, and extended from the mid-line of the forehead to the left ear. As the margins of this escharotic lesion softened under Biodyne treatment, they were away to permit epithelial growth to extend inward. This procedure resulted in healing with complete skin complement in ten weeks. Figures 2 and 3 show the result after six and eight weeks' treatment, respectively. The follow-up picture (Figure 4) taken 18 months later, reveals only a small scar in the hairline part as evidence of the original lesion. There are no ectropions; no contractures at the alae nasae, angles of the mouth or around the ears.

CASE NO. 2-W. AGED 46

On April 6th, 1942, this man was burned through his clothing with hot, liquid glue. First-aid, which was administered elsewhere, consisted in puncture of the vesicles and the application of Butesin Picrate and Gadoment Ointment. This treatment continued for five days, was accompanied by considerable pain, elevated temperature and rapid pulse.

Four days later (on April 10th) the patient was admitted to our service, with infected burns involving the circumference of the left arm and hand in the member's entire extent, the left and right shoulder, the back of the neck and the left side of the face. Some 13% of the sur-

face area of the body was involved in these lesions which ranged between third and fourth degree. Figures 5 and 6 show the condition at the time of admittance.

Initial treatment: After thorough cleansing of all lesions with liquid white soap and water, a complete debridement was performed and Biodyne Ointment on soft washed gauze applied. Dressings were held firmly in place by the addition of Ace Bandages.

There was immediate relief from pain on the application of the ointment. By April 15th, all burned areas showed active healing with extremely prominent islet-cell formation (see Figure 7). Fifty per cent healing had taken place by April 20th; and on May 8th—just 28 days after the initiation of Biodyne Ointment—the patient was discharged from treatment as completely healed. Figures 8 and 9 show the lesions as they appeared 8 months after the accident.

CASE NO. 3-W. AGED 4

On January 15th, 1941, this four-year-old child suffered a severe hot-water burn. First-aid administered elsewhere consisted in the application of Butesin Picrate. Temperature 103, pulse 150 and respiration 38 developed two days later and the patient was admitted to the hospital.

The approximately 7% of the body surface involved in the burn included the entire right buttock, the upper 1/3 of the thigh, both ankles, the right hand and thumb, and an area over the abdomen 10 cm. square. The depth of the lesions were of second- and third-degree and showed moderate infection beneath the vesicles.

Treatment: The lesions were thoroughly cleansed with sterile white soap and water, debrided and Biodyne Ointment applied. Compression bandages served to keep the dressings in place. Because of the evidence of delayed secondary shock with toxemia, a whole-blood transfusion was given. There was an immediate marked beneficial response to this therapy as regards both the general condition and the burn. As early as the third day, there was abundant evidence of healing (Figure 10). By the 8th day, basal epithelial proliferation was quite prominent and 60% of the entire surface was epithelized (Figure 11). Complete epithelization with moderate residual pigmentation resulted within 23 days (Figure 12). Follow-up photographs taken two years after the accident show a good, firm skin surface, with no evidence of scarring or pigmentation (Figures 13 and 14).

ROUTINE ASEPTIC MANAGEMENT OF BURNS WITH BIODYNE OINTMENT

The routine which we have established for the treatment of burn lesions with Biodyne Ointment does not differ essentially from that employed in other burn treatments now in popular use. In general, morphine or codeine is immediately given in sufficient dosage to relieve pain and restlessness. If possible, all initial treatment is carried out in warm operating rooms or bedrooms. In addition to serving as an adjunct in the treatment of any associated shock, any consideration tending to reducing pain and discomfort to a minimum is greatly appreciated by the patient. Any clothing adherent to the lesions is gently cut away.

In the actual treatment of the lesions aseptic precautions as rigid as for an abdominal operation have been observed. The area surrounding the lesion first is cleansed with sterile gauze or cotton pledgets soaked in warm, sterile, liquid white soap

and water. After absolute cleanliness of this area is assured, the lesions themselves are treated in like manner. This is followed by a thorough examination for bits of clothing, splinters of wood, pieces of glass, metal; as well as dirt, greases and chemical precipitates which might possibly be imbedded in the lesions. It has been our custom to neutralize all chemical burns with their proper reagents in order to prevent further damage to the tissues. For the removal of petroleum products, oils and greases, we have employed ether, benzene, lard and mineral oil. Throughout the cleansing procedure bleeding must be guarded against carefully and controlled if need arises. Lacerations may require surgical intervention.

We have avoided the use of antiseptics in the initial as well as subsequent treatment of our series of cases. They are painful and they are injurious to viable cells. While certain chemotherapeutic agents, such as the sulfonamides, might have proven valuable, these too have been omitted in order to prevent confusion in interpreting results.

At the time of the initial dressing, wherever possible, we have done a thorough debridement. All loose tissue and vesicles not removed in the cleansing process are held by tissue forceps and gently cut away with curved scissors. During this management it will be noted in most cases that the lesions dry readily due to the coagulation of secretions.

In lesions not showing this phemomenon, warm -air waves from a hand hair-dryer have been employed with satisfactory results.

In dressing the lesions, where facilities are available, we have used soft-washed gauze, 8-ply thickness, thoroughly impregnated with Biodyne Ointment. Where impregnated gauze is unavailable, the ointment is spread liberally by means of a large, sterile, bakelite spatula, on dry dressings 8-ply thickness and lesion size, and placed smoothly without wrinkling over the lesion. Several layers of dry flat gauze, wax-paper, or cellophane may be added to maintain a moist dressing and equalize compression. This is followed by the firm application of a cotton-elastic, crepe or woven compression roller (not a pressure roll). Where necessary, reinforcement with pneumonia jacket, perineal binder, head turban or stockinette is used.

The entire procedure of preparation and dressing may be done under light anesthesia where necessary, though we have had no occasion to resort to this measure. The initial narcotic has served even the smallest child.

For purposes of investigation, we have redressed cases frequently within 24 hours. Though of importance for the removal of newly-formed vesicles in cases of chemical burns and scalds, this procedure is unnecessary in the majority of burns. Subsequent dressing is dependent upon the clinical

course and type of healing and ranges from 2 to 6 days.

CLINICAL COURSE AND TYPE OF HEALING WITH BIODYNE OINTMENT

Immediate relief from pain is impressive throughout Biodyne Ointment therapy. Immediately following the injury, the relief afforded is due in great measure to the sealing of the open lesion from exposure. The mechanism of this action in the later stages and during the healing process is unknown. It is possible that the rapid restoration of the cells to their normal status might account for this.

Coagulation of surface secretions, as stated previously, prevents undue weeping and continues throughout the stimulatory phase of treatment as evidenced by definite formation of a fibrinous layer. After a few days, islets of new cells develop in the base of the lesions and centrally radiating projections at the margins. This fibrinous laver gradually diminishes. Eventually the islets and marginal epithelium conjoin over the entire surface of the lesion to form a soft, well-vascularized derma with the normal complement of skin structure. Peculiarly, this panorama of growth runs in sequences, which explains the similarity of the healing in acute and latent burn lesions, unless the latter are obstructed by connective-tissue barriers or excessive, infected granulations. We believe that this physiological reaction is responsible for the minimal scarring, contractures and keloids, and that we have not had to resort to skin grafting in any of the cases treated with Biodyne Ointment. The marked lowering of infection in cases treated with Biodyne Ointment must have part of the credit for the shortened period of disability.

Occasionally, under Biodyne Ointment treatment, when complete cell growth has occurred, hyperemia and exfoliation may appear as evidences of continued stimulation. This applies principally to the vesiculating type of lesion involving the upper layers of the derma—superficial necrosis—and can readily be met by termination of treatment.

In our experience there have been no contraindications to the use of Biodyne Ointment in any burn lesion, regardless of its character or duration. We have treated a number of cases of long standing, with overwhelmingly excessive, infected granulations, fibrous connective-tissue formations and, at times, remnants of skin grafts—in all cases with satisfactory results. These lesions, representing a complication secondary to a burn and of a pathologic nature different than the original burn, present evidence of the failure of epithelial cells to proliferate. Somewhere in the depths of these lesions there may be viable epithelial cells, which, if given the proper impetus, will become activated



FIGURE 1

One week after lye burn. Note escharotic lesion on forehead.

FIGURE 2

Six weeks after burn. Eschar reducing in size from epithelial proliferation at margins.

FIGURE 3

Eight weeks after accident.

FIGURE 4

Eighteen months after accident. Note minimal scarring and the fact that there is no ectropion.

FIGURE 5

Five days after accident and prior to Biodyne Ointment treatment. All lesions are infected.

FIGURE 6

Same as Figure 5.

FIGURE 7

Five days after initiation of treatment with Biodyne Ointment. Note epithelial stimulation in the form of small islets in the base of the shoulder lesion.

FIGURE 8

Eight months after accident. No scarring. Pigmentation alone remains to mar the results.

FIGURE 9

Same as Figure 8.

FIGURE 10

Three days after initiation of Biodyne Ointment treatment; five days after burn.

FIGURE 11

Eight days after beginning treatment. Note epithelial islets in central portion of lesion,

FIGURE 12

Complete healing after 23 days.

FIGURE 13

Two years after burn.

FIGURE 14

Close-up of lesion two years after accident. Note firm texture of skin.

and undergo multiplication. Time and again, under Biodyne Ointment therapy and compression bandaging, we have seen the infection in these lesions subside and healing progress both basally and marginally in the manner described above.

BURN LESIONS REQUIRING SPECIAL CONSIDERATION

For best results, particularly in electric, hotmetal and infected burns, we have found it necessary to modify our technique to meet individual difficulties which arise. Electric burns are distinctive entities. The surface burn may well be treated as previously outlined, but deeper lesions which are so often accompanied by varying intensities of electric shock, with the possibility of deep necrosis, local or distant to the point of contact, are best managed by aseptic cleansing and drygauze dressings under heat cradles until a line of demarcation outlines the limits of destruction. The possibility of surgical intervention must be kept in mind while efforts are made to prevent contamination and infection.

Dry, inspissated, deep lesions caused by hot metals or other heat penetrating elements are prepared aseptically and dressed initially as outlined. These lesions are characterized by eschar formations which penetrate the deeper layers of the skin. After several days, these eschars soften and loosen at the margins and should be trimmed to permit epithelization to progress from the borders of the wound. When purulent accumulations appear within the crusts, drainage can be effected by uncapping fluctuating pockets without complete dissection. Under such management satisfactory healing occurs.

Although, as previously stated, and as is evident in our summary of cases, infected lesions respond readily to Biodyne Ointment treatment, yet, certain differences in their nature make them worthy of special consideration. There are three types of infected lesions to be considered: 1. The recent injury undergoing the inflammatory reactions of an acute infection; 2. The delayed healing injury which has been kept active by some form of treatment without cellular proliferation; and 3. The injury displaying excessive granlations surrounded by scar-tissue and fibrous connective-tissue barriers. The first two types are best treated by aseptic preparation similar to that outlined, followed by complete debridement and the application of the ointment. Absolute bed rest and constitutional management are essential. Dressings are reapplied daily until the infection subsides, thereafter, as indicated. The third type of infected case responds quite satisfactorily to combined Biodyne Ointment and compression treatment. The exuberant granulations soon become flattened to the normal skin

level, following which epithelization proceeds marginally and sometimes basally to cover the entire surface. Every effort to heal this type is recommended rather than resorting to early surgery.

Conclusions

- The application of natural cellular products which stimulate cellular proliferation and metabolism to the treatment of burns represents a marked advance in burn therapy.
- By a proper combination of germicide and cellular stimulating factors, infections in burn lesions can be minimized without retarding the rate of wound healing.
- 3. The combination of Biodyne Ointment and compression bandages in the treatment of burns offers the following advantages:

Biodyne Ointment:

- A. Relieves pain throughout the course of treatment
 - B. Controls infection and inhibits sepsis
- C. Activates both basal and marginal cellular growth
- D. Encourages terminal healing with minimal defects
- E. Decreases the period of hospitalization

Compression Bandages:

- A. Provide fixation of dressings
- B. Prevent accumulations beneath the dressings
- C. Limit edema within the lesion
- D. Limit edema within the deeper substructures
- E. Maintain the remedial agent in contact with the lesion
- F. Improve capillary circulation which is given impetus by muscular action against surface resistance.

It is felt that the development of Biodyne Ointment with its natural growth and respiratory factors has opened an entirely new field for medical and scientific investigation. These substances with more intensive chemical study as to their nature, and clinical study as to their effect, may well prove to be the solution of many of the perplexing problems of therapeutics and wound healing which as yet remain unsolved. From our preliminary results, secured in the treatment of burns, it is apparent that these materials are quite effective and may well be used in the treatment of numerous types of war wounds as well as those injuries which occur in the catastrophes of everyday civil and industrial life.

Numerous chemical and biological experiments are being conducted in our laboratories at the present time with the express purpose of chemically analyzing the active materials and producing a purer, more specific and even more effective ointment.

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SUMMARY

- 1. Recognition is given to the cardinal importance of the constitutional management of burns.
- 2. Methods of local treatment are discussed briefly.
- 3. The ideal wound healing agent is defined.
- 4. The discovery of natural cellular proliferation and metabolic stimulating substances (biodynes) as the background for Biodyne Ointment is given, together with the present composition of this ointment.
- 5. There is included a brief discussion of the reduction of tissue toxicity of germicides.
- 6. Clinical investigations with Biodyne Ointment in one hundred burn cases show a decreased period of disability; absence of pain; minimal infection; scarring and contractures; and avoidance of skin grafting.
- 7. The method of treatment with Biodyne Ointment is outlined.
- 8. In the conclusion reference is made to the numerous possibilities for clinical application opened by the discovery of biodynes.

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SPRAINED ANKLE RECOVERY HASTENED BY IMMEDIATE USE

Immediate and normal use of a sprained ankle and foot almost irrespective of the type of local treatment hastens recovery. Uniformly best results were obtained by suppression of all pain in the injured part by injections of procaine hydrochloride. More than 200 of the patients receiving this treatment. More than 200 were treated with adhesive strappings of the ankle while still others were put to bed for cold and hot applications.

"Irrespective of the type of treatment," Dr. McMaster¹ says, "patients who returned immediately to normal activity and used and moved the foot and ankle improved much more rapidly than those who did not.

"Injection with 2 per cent procaine hydrochloride solution into the injured ligaments followed by normal activity gave uniformly the best results. These patients, following complete elimination of pain and tenderness by injection continued immediate use of the part, avoiding only especially strenuous activity as hard running or jumping."

As Dr. McMaster points out, ankle sprains may cause much disability, and often do, in military, industrial and other activities. The patients discussed in his report were men in active military service mostly in the late teens and twenties, and eight women, treated in the Orthopedic Department of the United States Marine Corps Base Dispensary, San Diego, Calif. All degrees of sprain from minor to severe were seen, but in each case the condition was sufficient to cause the man to seek relief either immediately or within th first day or so.

X-rays of the injured ankle were made almost routinely. No cases of fracture, including sprain fracture, are included in Dr. McMaster's series. Any type of fracture would contraindicate the immediate use of the part involved.

Various tyesp of treatment were used for comparison. Over 200 patients were strapped with adhesive tape, some of whom were sent immediately to duty and the others were instructed to limit weight bearing and protect the ankle either by complete bed rest or by use of crutches or cane. Bed rest without weight bearing for a day or more with initial cold applications and later hot to reduce swelling was tried in 22 cases. Twenty-eight patients were given only an elastic bandage support, while 18 with mild to moderately severe sprains were given no treatment and both latter groups were sent back to duty immediately.

More than 200 patients received local injections of procaine hydrochloride and with but few exceptions were sent to duty immediately.

The technic of injection of an anesthetic to suppress pain in the case of fractures, as used by Dr. McMaster, is not new. It was first reported by R. Leriche in 1928. Dr. Mc-Master describes the procedure used by him as follows: "The sprained ligaments indicated by tender points are de-

1. Lieut. Comdr. P. E. McMaster, U.S.N.R., in July 3d issue I. A. M. A.

termined by palpation. An antiseptic is then applied to the skin. Two per cent procaine hydrochloride solution . . . is used routinely . . . and the underlying injured ligament is injected. All tender points . . . are injected. A search is then made for tender areas in other ligaments and these are each carefully injected until no tender or painful areas remain either with palpation or ankle and foot motion. . . . Next an elastic bandage is wrapped snugly around the ankle, and the patient is requested to walk around the room. If any pain is experienced, further injection is done. The patient is then returned to activity with instruction to use and move the foot and ankle normally, except for running and jumping. Also it is stressed that while sitting as at a desk or table, the foot should be moved and not kept immobile in one position even for short periods. The elastic bandage is to be removed and rewrapped by the patient in one to two hours to prevent possible circulatory constriction. Daily and periodic return for check-up is required in all cases. . . ."

Those inactivated, partially or completely, were often disabled from a few days to two or three weeks.

ALLEVIATION OF HYPERTENSIVE SYMPTOMS

(S. H. May, New York City, in Med. Ann. D. C., July)

The main problem of essential hypertension is still hinged on a central nervous disorder, rather than on an endocrine or metabolic disturbance, possibly with hereditary vascular weakness.

The success of psychotherapy in some instances is striking. It relieves anxiety, and improves social adjustment. One is compelled at one time or another to resort to sedatives and hypnotics.

A recently introduced organic compound of calcium and bromine was studied for its efficacy in hypertension. Nine patients with complaints of years' duration of headaches, dizziness, nausea, throbbing, buzzing, palpitation, tiredness, apprehension, insomnia, etc., all had been previously treated by sedation, some, also with xanthines, iodide and vitamins.

Calcibronat* was injected intravenously on the average of two to three times a week for a period of 12 months in seven cases and six months in two cases. Occasionally an additional dose was given orally in the form of granules or effervescent tablets. In most cases four to six successive injections of calcium gluconate were given as a control, unknown to the patient. An intermission of four weeks served also as a control.

The wartime shortage of bromide material interfered with enlarging the number and duration of tests. Altogether 556 intravenous injections of calcium bromine galactogluconate were administered intravenously, as well as 38 injections of calcium gluconate as a control. As was to be expected, the changes in blood pressure were not great, although an average drop was noted in eight of the nine of s. 12, d. 13,3. In none of the cases were untoward results observed.

Symptoms and complaints diminished; greater contentment, with mental and physical relaxation, was obvious to all observers. Two patients were able to resume work during observation.

FOR THE TERMINATION OF TERTIAN malaria infections it has been found that one injection of thiobismol given the day quinine is started usually acts quicker than quinine alone by preventing a paroxysm the following day. It is suggested that this combination might find a wider use generally.—M. D. Young et al., Columbia, in II. A. M. A., Tune 19th.

^{*}The Calcibronat (calcium-bromide-gluconate) used in this study was supplied by Sandoz Chemical Works, Inc., New York City.

The Treatment of Coronary Artery-Disease

ERNEST LEE COPLEY, M.D., Richmond, Virginia

CORONARY ARTERY-DISEASE has engaged the attention of an increasing number of physicians since Herrick1 explained its diagnostic features. Following Herrick's lead, internists have studied in much detail its diagnosis and reported widely their results in the literature. While they gave consideration to treatment, they emphasized the significance of the clinical symptoms and signs and their correlation with the pathological findings, so that, now, physicians generally diagnose readily disease and accidents of the coronary vessels. The writer has recently described these symptoms and signs and their variations.2 The diagnosis of the condition, however, is only one step toward meeting the indications. Its increasing frequency, especially among those past fifty years of age, also emphasizes the need of effective treatment. The purpose of this paper is to outline the measures I have found helpful in my practice. It is obviously impossible to cover in one paper every phase of the treatment of a heart malady so varied in its severity and in the individual response to our best therapeutic efforts.

I shall consider first, arteriosclerosis of the coronary vessels. The larger number of these cases are far advanced, with varying amounts of congestive heart failure, before they seek medical advice. In not a few there is generalized arteriosclerosis with its complications. The treatment of heart failure due to coronary artery-disease does not differ essentially from the treatment of that due to other causes. A regimen of reduction in food and exercise is sometimes all that is needed to relieve the mild symptoms of cardiac insufficiency; for the more aggravated symptoms morphine, sedatives, digitalis and diuretics are indispensable. A quartergrain of morphine sulfate, given hypodermically, is worth more than all the rest of the pharmacopeia for relief of acute attack of cardiac asthma. This, followed by a teaspoonful of a solution containing a smaller amount of morphine and ten grains each of chloral hydrate and sodium bromide, in decreasing amounts for three or four nights at bedtime, rests the heart and abolishes all signs of fatigue. Subsequently, a half grain of phenobarbital administered four times a day, the last dose at bedtime, will often enable a patient to perform reduced activities for several years. This treatment can be repeated for successive attacks which are prone to

recur. Vacations in a warm climate also help some of these patients through the winter season. I have a patient who spends regularly the most of the winter months in Florida, and reports his cardiac symptoms greatly reduced while there.

The most important aid in restoring cardiac function is digitalis, and digitalization is urgently indicated when general measures have failed to prevent congestive failure with liver engorgement and pitting edema. Frequently patients wait until they are in the throes of heart failure before they seek treatment. In such instances, morphine, hypodermically, until able to rest and sleep comfortably lying down, supplements a course of digitalis. An easy plan to follow is to give to a patient weighing a hundred and fifty pounds, fifteen grains of digitalis the first twenty-four hours—a grain for every ten pounds of body weight—then, three grains a day for two days, and one and one-half grain daily thereafter.

For its effect on the kidneys and the coronary vessels, theobromine in the form of theobromine-sodium salicylate, three grains three times a day, is of considerable benefit. Also ammonium chloride, in seven and one-half grain enteric coated tablets, is an effective diuretic. In the very advanced cases of myocardial failure with generalized edema, a mercurial diuretic—salyrgan or mercupurin—1 or 2 c.c. intravenously, activates the kidneys so that they drain off the body fluids—sometimes as much as 3000 c.c. in twenty-four hours, and afford relief over a period of several months. The prognosis is obviously grave when resort has to be had to this treatment, which is contraindicated in patients with nephritis.

The general care in these cases should be directed to reducing the cardiac load. The diet should be restricted, and the fluid intake should be not more than 1500 c.c. daily. The bowels should be kept open. A simple laxative or mineral oil may be needed daily..

In the early stage of coronary artery-disease complaint is apt to be made of substernal pain and dyspnea on exertion; sometimes on taking a brisk walk on a cold morning. A careful and painstaking history should be taken in each case, and in every instance of the positive diagnosis of impaired coronary circulation a thorough physical examination should be made. Any defect revealed should be

treated if the physical condition of the particular case permits. Dental caries, a mild hypertension, constipation or painful hemorrhoids may yield to treatment with evident benefit. Obviously, such operations as prostatectomy and cholecystectomy are dangerous measures in such cases.

Pathologists believe if the formation of new arteries keeps pace with the occlusion of any given coronary vessel the welfare of the patient is not endangered. In this early stage, therefore, the purpose of treatment manifestly is to reduce the strain on the arteriosclerotic vessels until the new pathways for collateral circulation are established. Aside from heredity, strain and tension are perhaps the chief factors in bringing on disease of the coronary vessels. Therefore any measure that relaxes tension is indicated. For this purpose the simple bromides or phenobarbital are as effective as any of the sedatives. Happily they are also harmless. I have found aminophyllin, three grains three times times a day, beneficial in lessening the substernal oppression in some of these cases. Every patient who has coronary artery-disease with anginal pain should be urged to carry 1/200 grain nitroglycerine tablets and to dissolve one beneath the tongue at the first appearance of substernal pain. It is well also to advise them to do this before walking back to the office after a meal or before taking any exercise which usually produces distress. It is seldom necessary to administer morphine in this early stage.

In every cardiac case it is important to gain the confidence of the patient. Sometimes the failure of the physician to assert his authority results in disaster. A few years ago a bricklayer consulted me giving the history of typical anginal pain. He was informed that he had a serious heart disease and was urged to give up all work. He was not convinced, however, of the seriousness of his condition and died suddenly the following day while laying bricks. Sending this man to a hospital or having consultation would probably have impressed him with the gravity of his heart condition. When the diagnosis is manifest proper treatment should be insisted upon. While sudden death is inevitable in numerous instances, in many cases it can be prevented by intelligent care.

Thrombosis with occlusion and infarction is the critical development in coronary artery-disease, manifested by agonizing pain, apprehension, and profound shock. The patient should be made as comfortable as possible with the least exertion. Morphine should be given, hypodermically, in liberal amounts, pro re nata. If morphine nauseates, codein or pantapon should be substituted. In very few cases should such a patient be taken to a hospital or anywhere else. All fancy diagnostic procedures are to be omitted during the critical period,

as the diagnosis is generally obvious. Oxygen therapy should be instituted by means of a nasal tube or tent if pulmonary congestion develops with cyanosis, either in the acute onset or during the acute stage which lasts about ten days. The administration of digitalis is not indicated until the heart has been given a chance to marshal its strength for the crisis and until other measures have been tried. All transfusions are contraindicated. I have found 50 c.c. of a 50 per cent solution of glucose, given slowly by vein from time to time, of apparent great benefit. Some of the complications to be on the lookout for during the first two weeks are ventricular fibrillation and ventricular tachycardia, rupture of the heart wall, abrupt cardiac standstill, and the various arrhythmias.

Substernal oppression may continue to distress the patient, despite the administration of morphine. In such cases a 10-c.c. dose of aminophyllin b.i.d. by vein is in order. Subsequently, three grains of aminophyllin by mouth t.i.d. appears to aid the coronary circulation. After the formation of the infarct all pain ceases and the administration of morphine should be discontinued altogether. An excellent substitute for the morphine is 10 grains of each chloral hydrate and sodium bromide. This combination quiets the patient and induces muchneeded rest and sleep.

Thrombosis with occlusion and infarction is an acute episode, and each case has its own needs. In any case it is of the first importance to relax the patient and to reduce to a minimum the work of the crippled myocardium. All nursing care should aim to save the patient's strength. Therefore, every detail of the patient's existence should be carefully supervised, even taking a drink of water, or changing position in bed. It is not necessary that a bowel movement be had the first four or five days. If there is no movement after this time, a mild laxative or an enema may be given, but no exertion in using the bed-pan permitted. Nourishment can be given in small amounts several times a day. All visiting of relatives and friends should be prohibited altogether or made very brief.

The question of when to begin the administration of digitalis in case of congestive failure frequently arises. I try first by general measures to reduce the cardiac load to a minimum. Then if decompensation develops digitalis is indicated. The prognosis is obviously grave when morphine, sedatives and diuretics fail to maintain cardiac compensation; yet in several instances digitalis has restored cardiac function after all other measures had failed.

To allow healing of an infarction a patient should stay in bed for four to six weeks. A leading cardiologist advices three to four weeks in bed,³ and thinks the shorter period usually the more ad-

visable. The patient should remain in bed as long as there is an increase in the sedimentation rate of the red blood cells—seldom a shorter period than a month. Any signs of congestive failure or of a tachycardia with a diastolic gallop rhythm, when a patient has already been in bed for several weeks, demand continued bed rest until these untoward signs have disappeared. A hospital bed with adjustable back rest is a boon in every coronary case. A few of these beds can be used, as occasion demands, by a large number of patients. When a patient recovers he has no further use for the bed. Several of my heart patients own such beds.

After the first few days of acute illness the patient should wiggle the toes and the nurse give passive motion and massage to the legs to avoid embolus formation.

When the temperature, leukocyte count, sedimentation rate and pulse indicate healing of the infarct, the first exercises allowed should be carefully graded. The back-rest should be gradually, in the course of a few days, elevated from the flat to the chair position; then sitting an increasing number of minutes in a chair by the bed is to be allowed several times daily; then walking around the bed and about the room. While step-climbing and heavy exertion should be discouraged, normal routine should be resumed as soon as possible—walking and various easy tasks during at least two months before permission to resume regular work is granted.

Two typical cases and their treatment follow:

Case 1.—A white man, aged 72, had had hypertension for a number of years, and the past year or more an increasing sense of fullness in the chest and dyspnea on exertion. Sedatives, nitroglycerine and bed-rest were prescribed and gave such relief as to enable him to do light work. In the night of March 10th he was seized suddenly by substernal pain, which lasted for an hour and was followed by extreme shortness of breath and distinct shock. Every breath was labored, the blood pressure 80/40, the heart rate rapid and the sounds distant.

Immediate treatment consisted of morphine sulphate, gr. ½, hypodermically, repeated in an hour; warm blankets and hot-water bottles. For several days orthopnea required morphine in decreasing amounts. Fifteen grains each of chloral hydrate and sodium bromide were given at bed-time; also a 10-c.c. ampule of aminophyllin (3¾ grains) was given intravenously b.i.d. As soon as the patient was able to lie flat in bed, the morphine and aminophyllin were discontinued; and phenobarbital, gr. 1½, was given twice, and aminophyllin, gr. 3, three times daily.

The recovery of this patient was remarkable. All laboratory tests gave results within normal limits at the end of a month, and accordingly graded exercises were begun. At the end of six weeks he was ambulatory. Then an ecg. showed normal rhythm at a rate of 80; P waves, P-R intervals and QRS waves not significant except for the low R waves in all three limb leads; T₁, T₂ and T₄ inverted, an elevation of the S-T segment in lead 4, and a slight depression of the S-T segment in lead 3.

Case 2.—A white man, aged 65, had had hypertension and substernal pain radiating down the inner side of the left arm for several years, and an acute coronary occlusion with infarction in April, 1942. An eeg. made at that time indicated involvement of the anterior heart wall to the left. After two months of bed-rest and restricted activity, he was free from cardiac distress for eight months. March 17th, 1943, he began to have severe pain behind the breast bone, which radiated to both shoulders and down the iner side of each arm. This pain continued for several days, and was followed by dyspnea, orthopnea and Cheyne-Stokes' respiration. Pulmonary congestion with liver engorgement and edema of the extremities also ensued very quickly.

Emergency treatment consisted of morphine in liberal amounts at frequent intervals, 10-c.c. ampules (3¾4 grains) aminophyllin by vein b.i.d., 50 cc.. of 50% glucose by vein daily, and theobromine-sodium salicylate by mouth t.i.d. Food and fluid intake was rigidly restricted. The patient's condition became steadily worse, digitalis was given to the point of digitalization, and a daily ration thereafter. The course continued stormy for several weeks. With improvement generally, carefully graded exercises were instituted, and after three months he was allowed the chair for several hours a day. I am convinced digitalis was responsible for this recovery. Cardiac failure despite the routine described demands digitalis.

SUMMARY

In a large number of instances the arteriosclerotic process is so far advanced as to impair cardiac function before medical advice is sought. The measures indicated, therefore, are those generally necessary in the treatment of heart failure from other causes, and consist, in the main, of rest, relaxation and restriction of exercise; and the familiar drugs—morphine, sedatives, digitalis and diuretics. The importance of lifting the cardiac load by every means posible is emphasized.

Measures recommended for this advanced coronary artery-disease are also advised for the early, with the addition of nitroglycerine and aminophyllin for the relief of anginal pain and for their effect on the coronary circulation. Attention is also directed to the importance of the proper psychological approach and the necessity of exercising authority in dealing with these patients.

The emergency and later treatment of the acute episode of coronary thrombosis with occlusion and infarction suggested are: morphine in liberal and repeated doses, sedatives, oxygen therapy when pulmonary congestion with cyanosis develops, aminophyllin, glucose, diuretics, and prompt digitalization when these suggested measures fail to restore and maintain cardiac function. The sedimentation rate of the red blood cells is suggested as the best criterion for determining the length of the time in bed. It is also urged that graded exercises be given afterward and active and passive movement of the legs to prevent embolus formation.

Finally, two typical cases and their treatment are presented in brief outline. The effect of digi-

talis is illustrated in the second case.

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DIAGNOSIS IN RECENT CORONARY OCCLUSION (H. N. Middleton, Indianapolis, in Il. Indiana Med. Assn., Feb.)

The fourth lead—the chest or precordial lead—come into prominence only recently, is often of help in determining the presence and location of the myocardial infarcts. In a large number of cases the abnormalities in the three conventional leads are in accord with those in the fourth. In a number of cases the chest lead is characteristic of infarction, yet the three conventional leads show none of the classic changes; and the reverse may be true.

Coronary occlusion must be differentiated from five

other types of heart attacks.

 Angina pectoris.—The pain is of shorter duration from 5-10 minutes—it may be brought on by effort and is relieved by rest or by the use of mitroglycerin tablets.

(2) Dissecting aortic aneurysms.—Occur now and then, generally have much more pain in the back than is true of coronary disease. The coronary thrombosis patient has 9 chances out of 10 no matter how severe the pain is. Dissecting aortic aneurysm gives only one chance out of 10 to recover.

(3) Pericarditis.—Rarely causes sudden pain making it an emergency, but a few individuals do have such pain. Pain on breathing is common with pericarditis, rare with c. t. A friction rub is often heard early in cases of pericarditis. The ecg. does not always distinguish pericarditis from c. t.

(4) The heartache of neurocirculatory asthenia is at the apex of the heart, over the lower precordium and to the left and often lasts for hours. It may radiate to the arms. Almost always there is precordial tenderness in n. a., with tenderness, while in many cases of coronary thrombosis there has been no sensation of tenderness.

(5) Pulmonary embolism.—Probably more frequently confused with c. t. than with any other condition, although the acute attack with obstruction of the pulmonary circulation may not cause great distress. There tends to be more dyspnea with pulmonary embolism than with c. t., the patient with coronary thrombosis may have acute dyspnea: the same statements apply to cyanosis. Both conditions have or are quickly followed by fever and leukocytosis. The ecg. affords the best evidence as to which condition exists.

"IDIOSYNCRACIES" IN 1859 ALLERGIC MANIFES-TATIONS NOW

(Mr. Munn, Asst. Surgeon to the Middlesex Hospital, Abstracted in Charleston Med. Jl., 1859)

There is a numerous class the members of which cannot take, without inconvenience, one or other of the various alimentary substances. An occasional patient of mine cannot eat rice in any form without extreme distress. From the description of his symptoms, I believe spasmodic

asthma to be the cause of his discomfort. On one occasion when at a dinner party, he felt the symptoms of rice-pois-oning come on, and was obliged to retire from the table, although he had not partaken of any dish ostensibly containing rice. The white soup, with which he had commenced his dinner had been thickened with ground rice. A gentleman informed me that he could not eat figs without experiencing formication of the palate and fauces; and that the fine dust from split peas produced the same sensation, accompanied by a running at the nose. The father of this gentleman suffered from hay-fever at certain seasons.

Mr. T. cannot remain in a room in which there is a cooked hare.

Miss A, after eating eggs, suffers from swelling of the tongue and throat, accompanied by an alarming illness. Miss B. has similar effects following the taking of honey into the stomach—viz., swelling of the tongue, blueness of the fingers.

A member of the medical profession, with whom I am well acquainted, suffers from nettle-rash after eating veal. I have been informed of a lady who cannot remain in a room in which there is a cat. A patient under my care, since dead of cancer, was invariably thrown into a state of nervous excitement by the exhibition of the compound infusion of orange peel. A friend of my own suffered from erythema nodosum after eating shrimp, although these were perfectly fresh. I believe shell-fish generally is particularly liable to excite unpleasant consequences.

FROM "THE DEVELOPMENT OF MEDICAL SCIENCE"

(Herman Goodman, New York, in Med. Times, July)

Samuel Bard (1742-1821), after whom is named Bard Hall at the College of Physicians and Surgeons, Columbia University, graduate of Edinburgh in 1765, writer of vivid descriptions of diphtheria and yellow fever, proposed the first public hospital in New York City. His four children died of the yellow fever.

In the little cemetery of the Congregation of Spanish and Portuguese Jews lying near Chatham Square, is a tombstone to the memory of Dr. Walter J. Judah. Its inscription reads, in translation:

Zealous he was in his labors, the labors of healing,

Strengthening himself as a lion, and running swiftly as a hare to bring healing

To the inhabitants of this City, treating them with loving

When they were visited with Yellow Fever

He gave money from his own purse to buy for them beneficial medicines,

But the good that he did was the cause of his death!

J. Marion Sims (1813-1883) successfully operated upon women otherwise doomed to a life of suffering and humiliation when he effected the closure of vesicovaginal fistula. Sims founded the Woman's Hospital in New York City. A grateful city stored his statue in a sanitation dump until it was recognized and rescued by an eminent radiologist. The statue now stands on Fifth Avenue opposite the Academy of Medicine.

Paul Ehrlich (1854-1915) discovered salvarsan. Yet Ehrlich could not have undertaken his studies had it not been for the dye studies of the English chemist, William Perkin. The youthful Englishman was led to his happy discovery leading to the wonders of the coal-tar barrel through the chemistry studies of Hoffman; who was influenced, in his turn, by Kekule, architect of atoms.

DEPARTMENTS

OPHTHALMOLOGY

HERSERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

INTRAOCULAR FOREIGN BODY CASE REPORT

FOR THIS DEPARTMENT in July, 1941, the writer reported the discovery of an intraocular foreign body in the course of a routine eye examination in two patients within the same week. The foreign body was in the nasal half of the left lens in each case. In neither instance was the patient aware of the presence of the foreign body because there was neither pain, inflammatory reaction, nor altered function in the involved eye. The history and clinical examination disclosed an injury to the eve-in one case 22, in the other 6, years before. In both cases both eyes had remained quiet up to the time of my original examination and for the two years subsequently. The character of these foreign bodies and the management of each case was discussed.

The case here reported is interesting because of the nature of the injury, the length of time since the injury and the position of the foreign body in the globe.

A white farmer, aged 23, reported to my office June 24th, because of a scratchy feeling of the left eye for the past three months. He was aware of defective vision in the eye practically unchanged since an injury to the eye 14 years ago. At the time of the injury and for a short time thereafter the eye was sensitive. Not since until as above stated. The injury occurred as result of the explosion of a dynamite cap while the patient was stooping forward hammering upon it.

Vision of right eve was 20/20; left, fingers seen at four feet. Tension both eyes normal and globes quiet except for a small area of inflammation at 12 o'clock just anterior to the equator of the left globe. At this site a small dark object could be seen lying beneath the mucous membrane of the sclera and fixed in the proper substance of the sclera. It was hard and sharp to the palpating finger and gave moderate discomfort to the eye on gentle pressure and on movements of the globe. Its position was not altered by a strong hand magnet. The cornea showed a fine crescentic scar in the pupillary area from 12 to 6 o'clock and at the upper pole of this scar there was an anterior and posterior synechia. The pupillary reaction was good except in the area of the synechia. Due to cataractous remnants of the lens and vitreous opacities, clear details of the fundus could not be seen even with mydriasis. There was no evidence of

siderosis or other chemical changes in the intraocular structures. Under local anesthesia a small flap was dissected down to the deep scleral tissue from near the limbus upward and the foreign body exposed. Using a fine forceps the foreign body was slowly extracted by gentle traction and without complications. The choroid could be seen at the bottom of the sinus tract from which the foreign body was removed. The foreign body measured 3 millimeters in diameter, gave the appearance of slight disintegration, and its shape suggested that it was a segment of a detonating cap. It was non-magnetic on direct exposure to the magnet. The flap was firmly closed with two sutures and the eye occluded for five days, sutures removed on fifth day. Recovery was prompt and uneventful. X-ray examination, made to determine the presence of any other intraocular foreign body, was negative.

The route of this foreign body is especially interesting. From the clinical evidence it passed through the pupillary area of the cornea coursing upward cutting the anterior capsule of the lens, then through the 12 o'clock meridian of the body of the iris, penetrated the sclera at the site designated without entering the choroid where it remained for 14 years. It is not probable that it worked its way upward through the tough scleral coat from the depths of the less firm structures of the interior of the globe.

Since the eye was quiet, anterior chamber of good depth, tension normal and no lens matter in the anterior chamber no further treatment was deemed advisable. The patient was specifically warned to get prompt treatment if any untoward symptoms developed in either eye.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

THE MANAGEMENT OF THE ACUTE EPISODE IN CORONARY OCCLUSION

Myocardial infarction the essayist¹ regards as a better title than coronary occlusion, inasmuch as the essential condition may occur without coronary occlusion and occlusion of a coronary artery may occur without producing the symptom-complex.

The first three weeks, the critical period of the disease, was chosen as the phase to be considered. The management was outlined as follows:

In the typical case the diagnosis is evident from the history alone. Early recognition and immediate treatment have a decided influence on life expectancy. In case diagnosis is not obvious, bedrest

^{1.}C. E. de la Cahpelle, New York, in Bul. N. Y. Acad. of Med., Mar.

should be maintained until the correct diagnosis is decided upon.

The grave period may last for hours, days or weeks. Complete physical and mental rest for the patient, preferably in a Gatch bed, and not moved from it for at least a month. Under no circumstances should he be moved to a hospital merely to obtain special records such as ecgs. or other laboratory data.

Examination, with the exception of auscultation of the anterior chest, should be infrequent during the first few days.

Complete mental relaxation bordering on drowsiness should be maintained during the first week. Excitable patients are much better off for being kept asleep almost continuously during the early phase. In the absence of pain, phenobarbital, ½ gr. t. i. d., or chloral hydrate several times daily, is productive of good results.

Alcohol, in that form most agreeable to the patient, is of distinct benefit. It is to be discontinued if the patient becomes depressed under its influence, or if it causes gastric hyperacidity or heartburn. One-half to one ounce is the average dose, repeated two or three times a day, with tap or small amounts of effervescent water; rum in hot, weak tea is excellent, and brandy or sherry may be taken straight or in a frappé.

Coffee and tobacco should be prohibited.

A low-calorie diet is essential, with milk or milk with vichy, and warm broths, as the main constituents. Total fluid intake should not exceed 1500 c.c. in 24 hours. If the patient is unable to take fluids or nourishment by mouth, particularly if vomiting, 50 c.c. of 25 per cent glucose solution may well be given intravenously b. i. d., together with 5-10 per cent glucose solution by rectum through a Harris drip. An adequate supply of vitamins should be provided especially during the first week when food intake is restricted.

The bowel may be neglected during the first two or three days. Straining should be avoided by keeping the stool soft; 1-1½ ozs. of mineral oil q. h. s., followed in the morning by a small enema of oil and glycerine or saline. Enemas daily or every second day, if needed, for a week or so. Subsequently milk of magnesia serves well. For abdominal distention heat to the abdomen and insertion of a small rectal tube; pitressin may benefit but it is to be given with caution since it is a coronary vasoconstrictor. Novatropine is sometimes effective, particularly if distention is secondary to a spastic colon or other neurogenic state.

For the severe substernal pain nitrites should not be employed, but morphine ¼ gr. several times in the space of an hour or two if needed, although not infrequently it causes vomiting. If the patient is known to be sensitive to this drug, pantopon 1/3 gr., or dilaudid 1/12 gr. is to be substituted. In the early phase atropine intravenously in doses of 1/75 gr. several times daily if pain continues. In case of tachycardia atropine is to be withheld or given in smaller doses. Aminophylline—10 to 20 c.c. ampule or diluted to this amount injected very slowly through a fine-guage needle—alone or with atropine or papaverine two to three times a day to critically ill patients. Aminophylline may also be indicated by mouth, preferably in the form of an enteric-coated capsule or tablet to avoid or reduce the gastric irritation, 0.2 gm. (3 gr.) three or four times a day.

Papaverine, an opium alkaloid of low toxicity and non-habit-forming, is a powerful coronary vasodilator. It may be of value in fresh myocardial infarction with premature systoles. Pain may be relieved by its intravenous use in doses of 1-1½ gr. q. 2-3 hours. Oral administration can be used to continue its desired effect, 3 gr. q. 3-4 hours.

Oxygen. in high concentration for periods of 12 hours, is particularly indicated for the patient with myocardial infarction, circulatory collapse, or severe pain and restlessness with evidences of a failing myocardium—cyanosis, tachycardia, gallop rhythm, low blood pressure, dyspnea, and signs of pulmonary congestion and edema. Paroxysmal dyspnea and Cheyne-Stokes breathing also respond to oxygen therapy.

Patients with myocardial infarction in shock respond to transfusions of blood or plasma 150-250 c.c. given slowly, or to hypertonic glucose solutions given slowly by vein. 100 c.c. of a 50 per cent solution and repeated. The presence of any degree of heart failure, as determined by clinical or laboratory means (increased venous pressure) is an absolute contraindication to the giving of fluids by vein. The foot of the bed should be raised immediately. Bandaging the lower extremities from ankles to mid-thigh may also be of value.

Premature systoles may be ignored unless annoying. Quinidine 3 gr. t. i. d. or papaverine 3 gr. o. 4 h.—one or the other of these drugs should be used if the premature systoles occur once in every 10 beats or in series.

Ventricular tachycardia should be suspected in any patient with myocardial infarction suddenly showing a pulse of 180-200 per minute, basically regular

When quinidine is to be administered, it is well to give a preliminary test dose of 0.2 gm. (3 gr.) by mouth and wait 30 minutes for signs of sensitivity to the drug such as marked tinnitus, diarrhea or vertigo. If not, then doses of 0.4 gm. or even 1 gm. (6-15 gr.) q. 2 or 3 h. until the bout terminates. or signs of toxicity appear. Following return to normal, quinidine in doses of 0.2 gm. (3 gr.) t. i. d., p. c. for the next week or two.

Paroxysmal dyspnea is the prominent clinical phenomenon of acute left ventricular failure and requires morphine in ½ gr. doses. Pulmonary edema demands oxygen under positive pressure.

The drawing of 500 c.c. of blood, or applying blood pressure cuffs to the extremities and inflating to slightly greater than the diastolic pressure may give dramatic relief.

Indications for the use of digitalis in myocardial infarction include the appearance of progressive congestive failure, either with or without preceding left ventricular failure which has not responded to the administration of mercurial diuretics, fluid intake restrictions, sedation (or high concentration of oxygen), and the control of paroxysmal auricular fibrillation. Digitalis is to be given by mouth or by rectum, never intravenously. Dosage should be smaller than in the average cardiac case and given more cautiously with careful supervision and frequent check-up for early therapeutic effect or toxic signs and symptoms.

The danger of cardiac rupture in myocardial infarction due to digitalis therapy has been highly exaggerated. Embolism occurs in 12 per cent of cases of myocardial infarction. Some day it may be demonstrated that this will be prevented by the use of an anticoagulant such as heparin or dicoumarin. The brain, the peripheral arteries of the extremities, and the lungs are the most important sites of embolus formation. The treatment of choice includes immediate intravenous papaverine 1½-3 gr., repeated in two hours if needed.

Most writings on the management of coronary occlusion are vague and unsatisfactory. Here is something in which the essayist evidently believes, and his faith must beget faith in his readers. Dr. L. F. Barker used always to tell you something to do for your patient. Dr. de la Chapelle reminds of our lamented Dr. Barker.

EFFECT OF TOURNIQUETS ON VENOUS BLOOD-SUGAR VALUES

These determinations¹ were carried out, using a blood pressure cuff with mercury manometer attached as a tourniquet. A control series of observations was made without the use of the tourniquet. The tension applied to the upper arm was either above the systolic arterial pressure, "systolic tourniquet;" or at or above the diastolic pressure, but distinctly below the systolic pressure, "diastolic tourniquet." Each one of the three procedures was carried out on five normal subjects in the fasting state. An interval of several days elapsed between each of the three experiments. The blood-sugar determinations were carried out over a period of six minutes.

Without the tourniquet, the venous blood-sugar levels remain constant over a period of five minutes. The application of a venous tourniquet results immediately in changes in the venous blood-sugar amounting to 20 or even 25 mg. per 100 c.c., as either an increase or a diminution from the control value. The use of an arterial tourniquet causes some variations in the venous blood sugar, which, however, are much less marked than those obtained with the venous tourniquet. For the greatest accuracy a tourniquet should not be used in obtaining blood for venous blood-sugar determinations.

DERMATOLOGY

J. LAMAR CALLOWAY, M.D., Editor, Durham, N. C.

DANDRUFF

Dandruff is a chronic disease of the scalp of unknown, possibly infectious, origin. It has never been proven that one person might pass the "infection" to another through the common use of a comb or similar article. Nevertheless numerous textbooks intimate that the disease is contagious. Dandruff may be referred to as pityriasis capitis, pityriasis sicca, or mild seborrheic dermatitis of the scalp. It tends to occur in individuals with oily skin, acne vulgaris, seborrheic dermatitis, or any other seborrheic diathesis. Persons decidedly involved seem predisposed to develop seborrheic dermatitis on the glabrous skin and seborrheic alopecia of the scalp.

Dandruff may be dry or oily, inflammatory or non-inflammatory. The dry type tends to be non-inflammatory and the scalp is frequently involved with diffuse fine thin scales. If inflammation occurs it is usually patchy rather than diffuse. Oiliness is of variable degree. Some dermatologists contend that dandruff should be designated seborrheic dermatitis, that evidence of infection is manifest. Patches of alopecia may be present particularly on scalps severely involved. Both sexes tend to be affected and the more common are groups between 20 and 35.

In the differential diagnosis psoriasis, secondary syphilis, tinea capitis, and lupus erythematosus should be considered. Psoriasis (very difficult to eliminate at times) is patchy and almost always involves other areas, particularly the extensor surfaces of the extremities. Biopsy is usually diagnostic.

In the treatment of dandruff, the essential is persistence, whatever therapeutic regimen is used. Have the patient understand at the outset that his difficulty can be controlled provided he continue therapy indefinitely. This is not difficult, since it

^{1.} W. C. Laughlin et al., New York, in Jl. Lab. & Clin. Med., June

eventually involves merely the application of a scalp lotion once a week following a shampoo.

For severe or moderately severe scalp involvement either of the following ointments is to be rubbed into the scalp well every night, and removed the following morning with tincture of green soap shampoo. This regimen should be continued for a week or more, discontinued when decided improvement has occurred.

Scalp Ointments	
I	
Rx Oil of Cade	12.0
Sulfur, ppt	6.0
Salicylic acid	3.0
Aquaphor q. s. ad	60.0
Sig: Rub into scalp well every night.	
II	
Rx Salicylic acid	3.0
5% ammoniated mercury oint. q.s. ad.	60.0
Sig: Rub into scalp well every night.	

Oily applications frequently aggravate the scalp condition. Scratching is contraindicated.

After improvement has occurred and/or in case of mild or moderate involvement, the following measures are usually helpful:

Shampoo daily with tincture of green soap, lathering well and rinsing with warm water, then lathering again and allowing the soap to stay on the scalp for ten to fifteen minutes before rinsing. Dry, then rub one of the folowing lotions, thoroughly into the scalp (not the hair). A medicine-dropper or a toothbrush serves a useful purpose here.

Rx Resorcinol monoacetate	10.0
Liquor carbonis detergens	12.0
Ethyl alcohol 70% q.s. ad	240.0
Sig: Rub into scalp well after shampoo.	
II (Stokes')	
Rx. Hydrarg. chlorid. corrosive	0.125
Chloral hydrate	0.5
Tr. Capsicum	
Spts. vin, rectificat	
Spts. odorataa	50.0
Aqua q.s. ad24	10.0
Sig. Rub into scalp well after shampoo.	

Scalp Lotions

As improvement occurs the number of applications of the lotion and shampoos is gradually reduced until eventually a weekly champoo and lotion application suffices.

SUN DERMATITIS IN ADULTS

(A. Adler, in Proc. Royal Soc. of Med. (Lond.), April) Photosensitivity of the skin may be so pronounced that the patient may be compelled to live in a dark room because the skin reacts by becoming swollen and red (in patches) and inflammation may proceed to blistering and ulceration.

It seems to be an allergic susceptibility of the skin to sunlight.

There are two groups, a juvenile which dates from earliest childhood and an adult type after 20 years of age. In the adult type the skin lesions (in contrast to the juvenile) are always confined to the epidermis and never show scarring after healing. *Hypochlorhydria* (or even *a-*) is often present as well as abnormal bacterial flora of the faeces resulting in indicanuria.

CLINICAL CHEMISTRY and MICROSCOPY

J. M. Feder, M.D., Editor, Anderson, S. C.

A SIMPLE ANALYTICAL PROCEDURE FOR RENAL CALCULI

It is frequently desirable to ascertain the chemical contents of a kidney stone. We have been using the following technique in our laboratories for some time and have been pleased with the accurate results obtained.

- 1. The stone is ground to a fine powder in a small mortar. If it is laminated, each layer is so treated.
- 2. The powder is suspended in 5 c.c. of distilled water in a small test-tube, the solid particles allowed to settle for 30 minutes.
- 3. 1 c.c. of the supernatant fluid is placed in another small test-tube and 1 c.c. of Arsenomolybdic solution. (This is the same reagent that you use for blood uric acid determinations.) Add an excess of saturated solution of sodium carbonate (about 1.5 c.c.) A deep blue color indicates uric acid and urates.
- 4. Shake up material in original test-tube and remove 1 c.c. to another tube, adding 5 drops of 50% sodium hydroxide solution. Place a piece of red litmus paper across the mouth of tube and bring contents to a gentle boil. If the paper turns markedly blue ammonia is present.
- 5. To remainder of material in original tube add 2 c.c. of concentrated hydrochloric acid. Evolution of much gas denotes carbonates.
 - 6. Boil for two minutes and filter.
 - 7. Divide filtrate into four parts, A-B-C-D.
- 8. To A add 2 c.c. saturated solution potassium acetate. A white precipitate indicates calcium oxalate. If no precipitate results, divide into 2 portions, A-1 and A-2. To A-1 add few drops of calcium chloride: a white precipitate indicates oxalate. To A-2 add few drops of sodium chloride: a white precipitate indicates calcium.
- 9. To B add (1) piece of litmus paper, (2) excess ammonium hydroxide, (3) nitric acid, dropwise, till slightly acid, then heat to 70° C. and add some ammonium molybdic reagent.* A canary-yellow precipitate indicates phosphate.
- 10. To C add equal volume of water, then several drops of ammonium thiocyanate solution. A red color indicates iron.

11. To D add 1 drop of para-nitro-benzene-azoresorcin, $\frac{1}{2}\%$ solution in $\frac{1}{2}\%$ normal sodium hydroxide, then an excess of 20% sodium hydroxide solution. Blue color indicates magnesium.

Calculi containing cystine, xanthine, difficultly soluble amino-acid, fibrin, urostealith and indigo are rare. Special methods of analysis are required for them.

Interpretation of Results.—The presence of carbonate indicates calcium carbonate, magnesium carbonate or both; oxalate indicates calcium oxalate and rarely magnesium oxalate; phosphate indicates calcium tri- or diphosphate and if ammonia is also present magnesium ammonium phosphate (triple phosphate); uric acid indicates either free uric acid and if ammonia is also present ammonium urates; calcium indicates calcium carbonate, oxalate, or phosphate; magnesium indicates ammonium magnesium phosphate or magnesium carbonate or occasionally magnesium oxalate; ammonia indicates ammonium urates or ammonium magnesium phosphate.

*Dissolve 100 Gm. molybdic acid in 144 c.c. ammonium hydroxide (sp. gr. 0.90) and 271 c.c. water. Slowly and with constant stirring pour the solution into 489 c.c. nitric acid and 1148 c.c. water. Keep mixture in a warm place for several days or until a portion heated to 40° C. deposits no yellow precipitate of ammonium phosphomolybdate. Decant the solution from any sediment and preserve in place-stoppered bottles.

INSURANCE MEDICINE

H. F. STARR, M.D., Editor, Greensboro, N. C.

THE INHERITANCE OF LONGEVITY

OLD AGE in an individual is proof of physical adequacy to withstand the hazards of life. Physical qualities are inherited, and when the parents of an individual have reached old age there is presumptive evidence that he too may live to be old.

Alexander Graham Bell's study¹ of 8797 persons in the Hyde family led to these conclusions:²

What is really inherited is probably a tough, wiry constitution that enables the fortunate possessor to survive the multitudinous ills that flesh is heir to and live on to the extreme limit of human life. From this point of view the attainment of old age is extremely significant. The last survivors of a whole generation are people who have by the very fact of their surviving to old age proved themselves to be resistant to disease. They have been exposed to the diseases and accidents that have cut off the vast majority of their fellows before their prime, but have not succumbed

"The average duration of life of the offspring was greater as the parents were younger at marriage.

"The average duration of life of the offspring

was greater as the parents were younger when the children were born.

"The children born during the first ten years of married life were, on the average, longer lived than those born later."

Raymond Pearl³ compared average duration of life when both parents died under age 60, and when both died over age 80, and found the difference in longevity between the offspring of the two groups to be 20 years. The length of life of the daughters followed the parents more closely than did that of the sons.

Forsyth⁴ calculated that if all the reasonably preventable deaths were prevented, the total increase of expectation of life would be 12 years and 245 days. This would be a great gain. But compare this with the difference of 20 years when parents die under age 60 and when they die over age 80. As has been said, the most important single factor in reaching old age is to have long-lived parents. Judging by an analysis made by Pearl, an individual whose parents reached age 80 years has four times the likelihood of attaining such age as if neither parents lived to age 80.

Vitality in the parents, proven by longevity, is reflected at the other extreme of life by a lesser infant and childhood mortality. It is only when the age of the parents exceeds 65 that the death rate of the children is better than the average.

A study of the records of 48,843 births by Charles Ansell as long ago as 1874 showed that first-born children have a higher mortality than those born subsequently. The death rate decreased for the second- and third-borns and afterward tended to rise. The same results were observed by Karl Pearson.⁵ In mature life, however, first-borns showed a favorable longevity, due partly to culling out of the less fit because of the high death rate earlier in life. Karl Pearson and Mary Beeton found that "the elder adult sister and adult brother live on the average four years longer than the vounger adult sister or brother-to have a brother or sister die as a minor considerably shortens the expectation of life. It is remarkable that the death of his sister as a minor seems more important to a man than the death of his brother as a minor, and vice versa for a woman."

Conclusions

Longevity is inheritable. The tendency is somewhat stronger in daughters than in sons. Although the early mortality in first-borns is higher, those surviving live longer than younger members of the family. The death of brothers and sisters as minors lessens the expectancy of the individual.

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HISTORIC MEDICINE

NOTES ON MEDIEVAL GUILDS OF MEDICINE¹

Guild of Barbers and Surgeons included Perukemakers and Midwives

Guild of Physicians and Apothecaries included Painters, Explorers and Undertakers

GUILDS originated probably in Scandinavia and the northern part of the Continent, certainly prior to the Christian era. The early guilds were social and religious. Three times a year the freemen gathered to feast and to drink to the gods and heroes. Central governments were not strong and sometimes practically non-existent. The guilds played an important and sometimes dominant part. As monarchs became more powerful, the guilds, although established by the freemen, could continue only by royal charter.

The merchant guilds were the most powerful. The crafts guilds included the barbers, surgeons, physicians and apothecaries. Peruke-makers and midwives were included with the barber-surgeons. Painters, explorers and undertakers with the physicians and apothecaries.

The barbers and surgeons of England have a history dating back to the 14th century. Prior to that time medicine and surgery were practiced by the clergy. In the time of Edward II, an ordinance concerning the practice of surgery and objectionable advertising was passed. The barbers, who also did blood-letting and extraction of teeth, and the surgeons were often in conflict, but the barbers were usually victorious. In 1540, in the reign of Henry VIII, an act of parliament combined the two into the United Company of Barbers and of Surgeons. This union lasted more than two centuries. The Royal College of Surgeons was given a charter in 1800, and continues to exist as one of the licensing bodies of England. Until partly demolished by bombing in 1940, the magnificent building housed an excellent library and the famous Hunterian museum.

The Barbers Company was housed in a less impressive but nonetheless handsome building. Among its streasures is the painting by the younger Holbein, showing a meeting of Henry VIII and the Masters of the Company. The Barbers Com-

pany has ceased to act as anything more than a social group.

The physicians of London were not organized until 1518, when Henry VIII granted a charter to The Royal College of Physicians of London. The term college represented an association or society for a common purpose, rather than an academic body.

The apothecaries were members of the Grocers Guild until 1606. In 1617, The Society of Apothecaries was incorporated with full rights of a guild. The apothecaries were ultimately given the power of licensure for the practice of medicine, a privilege they still hold.

In Scotland, the Chirurgeons and Barbers were granted a charter in 1505, which was ratified by James IV in 1506. James, himself, practiced surgery, such as treatment of wounds, extraction of teeth and couching for cataract. He sometimes collected fees and occasionally upon failure of his treatment he would recompense his patient. The guild was given the sole right of manufacture and sale of aqua vitae. In 1697, the barber-surgeons built an anatomical theater and in 1705 a Chair of Anatomy was instituted which became a part of the University of Edinburgh. In 1778, the guild became the Royal College of Surgeons of Scotland and in that form still exists.

In 1505, a Faculty of Medicine was established in Aberdeen and in 1599, the Faculty of Physicians and Surgeons was founded in Glasgow. The physicians of Edinburgh made various attempts to form a society, but were not successful until 1670, when they were chartered as The Royal College of Physicians of Scotland.

Ín Ireland, the Guild of Barbers and Surgeons dates back to 1446. The Royal College of Surgeons was established in 1784, but the Guild also continued to exist until 1840. A guild of physicians existed for a few years in the middle of the 17th century. In 1692, William and Mary granted a charter to the King's and Queen's College of Physicians which had control over licensing both physicians and apothecaries. In 1745, the apothecaries formed the Guild of St. Luke, which subsequently became the Apothecaries Hall of Ireland empowered to conduct examinations and grant licenses.

The Guild of Doctors and Apothecaries of Florence was established at some time prior to 1197 and played an important part in the great days of that city. Enrolled in the guild were physicians, surgeons, barbers, midwives, painters, porcelain makers, silk and perfume agents, explorers and writers. The diversity of occupations in the guild was partly the result of the nature of the shops of the apothecaries. The shops sold drugs and ointments, perfumes, gloves, sachets, buckles, various

^{1.} H. T. Karsner, Cleveland, O., in Jl. Maine Med. Assn.

kinds of dishes, layettes for obstetrical cases, oiled leather for bandages, sponges, brushes, artists' pigments, books of all kinds, silks for clothing and haberdashery and knickknacks. The apothecaries had the exclusive right to act as undertakers, provided the pallbearers and sold the coffins, torches, fireworks, candles, ornaments of all kinds, burial drinks and all other accessories. The apothecaries' shops were meeting-places for men and women of Florence of high and low degree.

Dante Alighieri was a member, others included Matteo Palmieri, apothecary and poet, Leo Battista Alberti, physician, astronomer, architect and writer, and Antonio Benivieni, physician and man of letters. Printing and manufacture of books and engraving were recognized as appertaining to the guild, Aldus Manutius was enrolled as a member, also Paolo Toscanelli, who renewed the Miletan theory of the spherical form of the earth. Toscanelli corresponded with Oueen Isabella and Columbus and although he died in 1482, the vovage of 1492 is said to have followed a route he selected. Amerigo Vespucci, agent of the Medici Company of Adventurers, provisioned two of Columbus' voyages. Before embarking on his own voyage of exploration, he visited Florence to obtain information and was matriculated in the Guild. The Guild held an important and significant place in the arts and sciences of Florence and thereby in the world.

Certain of the shields show fleams or lancets, trephines, bone forceps, spatulas, ointment boxes and urine glasses. Heraldic devices included figures of the lion, the leopard, the rhinoceros, and various other symbols. Especially in England, there were items such as the Tudor rose, signifying the royal favor.

Most of the medical guilds had patron saints. Of these Sts. Cosmas and Damian and St. Luke were especially popular. Cosmas and Damian lived in the 3rd century, were the elder sons of Theodora of Aegea in Cilicia, were professed Christians and belonged to the group of Anargyri, taking no fees for their services. They were persecuted by Diocletian and executed in 303 A. D. They were also patron saints of the State of Florence and the Medici family.

St. Luke's patronage covered physicians, surgeons, apothecaries and painters. The only evidence that he was a physician is found in the verse in Colossians, "Luke the beloved physician and Demas salute you." Examination of various writings on this problem leads to the view that although Luke was the best educated of the Disciples, he was probably neither physician nor painter.

St. Kentigern, headmaster or lord; also known as St. Mungo (Munghu), dearest friend, was the patron of the Barber-Surgeons of Edinburgh and the Guild reported his altar in the church of St. Giles. There is no evidence that he was anything more than a faith healer.

Apollo, the sun god and the god of health, Cheiron the centaur, Aesculapius and his sons, Machaon, the surgeon, and Podalirius, the physician, appear on the shields of many of the guilds.

In later times, guildry came to be represented by the trades unions. In Philadelphia there was the Carpenters' Company, which had the courage to permit the first Continental Congress to meet in Carpenters Hall, at a time when it might mean confiscation or worse. The College of Physicians in Philadelphia is a lineal descendant of the Royal College of Physicians of London, but although it has contributed significantly to American Medicine, it never had the civic connections or authority of its progenitor.

Guilds still exist in Britain and on the Continent, largely as social organizations, often beautifully housed and in certain instances forwarding the interests of the arts and sciences. The successors of the medical guilds which have licensing powers fulfill a useful function in that way and in honoring distinction in the profession. In the old City of London, the Aldermen are elected and the Lord Mayor chosen from among the members of the guilds.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

CONDITIONED REFLEX TREATMENT FOR ALCOHOL ADDICTION

THE ENGLISH physician, Nash, wrote in 1592: "Nor have we one or two kinds of drunkards onely, but eight kindes. The first is ape drunke and he leapes, and singes, and hollowes and daunceth for the heavens: the second is lion drunke, and he flings the pots about the house, calls his hostess whore, breakes the glasse windowes with his dagger, and is apt to quarrell with any man that speaks to him; the third is swine drunke, heavie, lumpish, and sleepie, and cries for a little more drink; the fourth is sheep drunke, wise in his own conceipt, when he cannot bring forth a right word: the fifth is mawdlen drunke, when a fellowe will weep for kindness in the midst of his ale: the sixth is Martin drunke, when a man is drunke and drinks himself sober ere he stirree: the seventh is goat drunke, when in his drunkeness, he hath no minde but on leacheries: the eighth is fox drunke, when he is craftie drunke, as manie of Dutchmen bee, that will never bargaine but when they are drunke. All these species, and more have I seen practiced in one companie at one sitting, when I have been permitted to remayne sober amongst them, only to note their severall drunken humours."

So opens an article¹ describing a promising treatment of alcohol addiction.

It is realized that many alcoholic patients could make a satisfactory social adjustment. For such a group the conditioned-reflex treatment is offered a prompt and economical therapy, with results equal or superior to methods now in use. It assists the weak-willed to greater fortitude and resistance to their alcoholic addiction.

The aim is that the response be so conditioned as to be evoked by sight, smell or taste of an alcoholic beverage.

Technic: No breakfast on morning of treatment. Amphetamine sulfate, 5-10 mgms., two hours before treatment. Emetine hydrochloride ½-1½ grs. in capsule, with 1 qt. of water 20 minutes before entry to treatment room. In the quiet, darkened room there are, illuminated by a spotlight, a small table with a mirrored surface and background, several bottles of the patient's customary alcoholic beverages, and glassware.

The patient is seated in a comfortable chair so his gaze is directly toward the "bar" during the entire treatment. The emetine formula No. 1 is given by hypodermic in dosage of 6-12 minims. The technician remains in the background, stepping forward only when necessary to assist the patient in continuing the treatment. There must be no interruptions or distractions.

From 2-10 minutes later the patient is told to select a whisky and pour himself a drink; and then to slowly smell, taste and sip. If this first drink has been carefull coördinated with the emetine nausea, there will follow an increase in the nausea and very soon vomiting will ensue. Another straight whisky is taken, followed by a hot toddy consisting of two ounces of whisky in eight ounces of hot water.

In the earlier part of treatment alcoholic beverages are taken in a leisurely manner, but toward the last they are urged onto a reluctant patient. Conditioning for gin and wine is carried out after a session of whisky emesis has been established. All whisky patients are conditioned for beer. As the nausea starts to decrease (usually after 20-40 minutes) the treatment is quickly terminated. The patient is not allowed to retain more than the smallest quantity of alcohol in his stomach.

For proper conditioning it is important for the patient to be completely alert throughout and following the treatment. When he leaves the bar he is given a four-ounce glass of root beer to which

has been added 10 minims of tartar emetic solution for continuance of a mild nausea.

Emetine Solution No. 1-	
Emetine hydrochloride	3.25 gm.
Pilocarpine	
Ephedrine sulfate	1.50 gm.
Sterile distilled water	
Emetine Solution No. 2— Emetine hydrochloride Sterile distilled water	
Tartar Emetic Solution— Tartar emetic Distilled water	
Distinct water	- carree

Uusually four to eight treatments develop full conditioning against the sight, smell and taste of liquor. The conditioned reflex is reinforced at intervals of two, four and eight months after by repeating the treatment.

Physical contraindications to the treatment are hernia, gastrointestinal ulceration, hemorrhage, cardiac weakening and coronary disease.

The patient is hospitalized for his first treatment.

It is a simple, quick, economical and reasonably sure method of developing abstinence in the more socially adjusted alcoholic patient.

A number of articles of this nature have appeared in recent years. The treatment appeals to us as offering much, and it may readily be given in the home.

Here is one general practitioner who is going to give it a fair and hopeful trial. And he hopes readers will find it a solution to one of their problems.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

AMPUTATION ANESTHESIA BY FREEZING

This description of this little-used and spectacular technique is carried in Dr. Bunch's Department without his authorization, and with no word of approbation or disapprobation from him.— $J.\ M.\ N.$

Advantages of the refrigeration method: 1) simple and efficient anesthesia, involving protoplasm as well as nerves, and adhering closely to Crile's theory of anociassociation: 2) accordingly, absence of all usual signs of shock following amputation, especially in poorly nourished elderly patients for whom any other type of anesthesia spells death, often during the operation: 3) reduced liability to pain, edema, infection and necrosis, with the aid of postoperative cooling which reduces tissue metabolism and probably arrests bacterial activity; 4) consequently lowered mortality: 5) lower but

^{1.} H. R. Carter, Deuver, in Rocky Mountain Med. Jl., May.

^{1.} E. A. Nixon, Seattle, in Northwest Med., May.

healthier healing processes and better than average final result with scar and stump.

Evarts A. Graham believes that reduced temperatures in surgery will be of great value as improvements are made in the technic employed.

Attention to the vitamin C level and the use of nonabsorbable sutures seem to improve the rate of wound healing.

Before the application of the ice, senile lack of coöperation and emotional distress require the use of sedatives in larger doses. Careful analysis of each patient is necessary to determine the correct dosage. The patient should be assured of a good sleep the night before surgery; the following morning, nembutal, grains 1.5, is given one hour before applying the ice. A small dose of morphine 30 minutes before icing is of value in getting better coöperation from the patient. For insufficient sedation the guilty surgeon should be punished by having an experience comparable in anguish to that suffered by the patient.

After sedation, several ice bags or collars are applied to the leg at or slightly above the proposed level of the tourniquet. The tissues are numb and application of the tourniquet is not painful. Preliminary elevation of the extremity or the application of an esmarch type of bandage, unless contradincated by infection, helps in producing an avascular field for surgery. Use a dye to mark the three levels for 1) skin incision, 2) bone amputation and 3) tourniquet.

A pneumatic tourniquet with a gauge is indispensable. From 8-12 pounds of pressure is required for amputation through the thigh or leg. The continuance of pressure for two, three or even four hours does not interfere with healing, nor does it damage the tissues even in advanced arteriosclerosis.

For freezing a rubber sheet is placed under the extremity and the entire surface of the leg and thigh covered with a 2-inch thickness of ice. The head of the bed should be raised to permit drainage of water from the melting ice. If the patient is strong enough and amputation is to be done below the knee, he can sit in a chair with the leg immersed in a bucket of cracked ice. A skin temperature of 5° C. is optimum and does not freeze the tissues. The time required is about $2\frac{1}{2}$ hours for a low or mid-thigh amputation, two hours for the upper third of the leg, and $1\frac{1}{2}$ hours for the trees or a metatarsal amputation.

The patient is removed to the operating room with the extremity encased in ice. This is removed only when each member of the surgical team is gowned and gloved, solutions and instruments ready, and when someone is sitting at the head of the patient to reassure him and watch for untoward developments. The solutions and instruments

should be cooled by immersing the basins in ice baths. Skin preparation and draping should be completed rapidly.

Often attempts to save the knee increase the morbidity, necessitating secondary amputation. A hand saw may be more convenient than the Gigli type, and cotton or wire superior to silk as suture material. To unite the fascia and skin in obese patients towel clips are preferred.

Dressings are applied sparingly in order to permit the use of ice bags around the stump for four days; remove the ice bags individually, beginning on the third day. Generally the patient may resume normal eating soon after surgery, attention being given to control of pain which is thought to be less than that following other types of anesthesia. Stitches must remain in place longer than usual because refrigeration delays healing.

For skin grafting. Two hours preöperatively, the nurse applies ice bags snugly to the donor site. At operation no other anesthesia is necessary, ice bags are removed, site prepared with alcohol, and Thirersch or split-thickness grafts removed. Remainder of technic follows usual pattern.

Refrigeration anesthesia is a relatively simple and efficient method for reducing the shock of amputation by more complete anociassociation, and reduces liability to edema, infection and necrosis of the stump. Postoperative pulmonary complications are markedly decreased and gastrointestinal disturbances prevented. A low thigh amputation should be done in poor risk elderly patients, the Fuller sleeve method being preferred. Adequate sedation is important, although the cost of pain relief should not be too high in cardiorespiratory complications.

TUBERCULOSIS

J. DONNELLY, M. D., Editor, Charlotte, N. C.

TUBERCULOSIS IN INFANCY AND CHILDHOOD

In the last forty years the reduction in the morbidity and mortality of tuberculosis has been particularly notable in the periods of infancy and childhood, periods formerly the most dangerous. Early in this century diagnosis of infection in a child was usually equivalent to a sentence of death.

James T. Villani, M.D., in a recent issue of the U. T. A. Bulletin, offers quotations from the textbooks of the earlier period, such as "90% of infants infected during the first year of life perish," not a single infant has recovered," and "before the fourth year of life tuberculosis is always fatal." Also, it was believed that every individual had

been infected by the tubercle bacillus at some time in life and the death rate gave reason for the belief—in 1900 among infants of less than a year, 300 per 100,000; among the whole population, 202. In 1940 the infant rate had dropped to 25—a decrease of 92%; the rate for the general population to 46—a decrease of 77%. Thus in 40 years the death rate in early infancy, the previous period of highest rate, had dropped to one of the lowest, being bettered only by the rate for the period 1-to-4 years.

Diagnosis in these earlier days could be made only by the physical signs, or by the symptoms. and, hence, tuberculosis was discovered in the infant only when the symptoms became clinically evident. The types of disease thus discovered were the hopeless forms, such as miliary disease, meningitis or pneumonia. There was no means of recognizing the presence of mere infection or very early primary disease in children, so that protective measures might be instituted to prevent clinical disease. Also, there was no separation of the newborn baby from a tuberculous mother, because (1) often the presence of tuberculosis in the mother had not been recognized and (2) there was no practical way of breaking the contact. There were few sanatoria for the treatment or segregation of the tuberculous and those few were unattractive to patients. There was no collapse therapy in those days to assist in rendering cases at least non-infectious.

The author states that childhood, in contrast to infancy, has always been the period of lowest tuberculosis mortality, yet the percentage of decrease in that period since 1900 exceeds that of all other age groups except infants. It is also notable that bone and joint tuberculosis, tuberculosis of the cervical lymph glands and tuberculous peritonitis -all having the bovine bacillus as their commonest cause—have become much less frequent. Thus the tuberculin testing of cattle and the pasteurization of milk have had their effects. The author refers to an item in Time (Jan. 4th) in which it was stated that 0.5% of United States cattle are infected, compared to 40% of Britain's cattle, and that unsafe milk was blamed for part of the 45% rise in deaths of British children under ten from tuberculosis.

While better nutrition and hygiene cannot in themselves prevent infection, a healthy body is a decided advantage in overcoming the infection. Also, there is not now the reckless exposure to infection through ignorance, because knowledge of the facts of contagion is widespread. Not treatment, but prevention of infection, is chiefly responsible for this great saving of health and life.

Since 1900, the only years which have shown a rise in the mortality figures of tuberculosis were 1917 and 1918. Our participation in the present

war apparently will be much longer than in World War I, and the reduction of the physical resistance of the population to disease may be expected to be much greater. True, due to the widespread finding and treatment of active cases during the past few years, we have fewer spreaders of infection than we had 25 years ago. In peace time the morbidity from tuberculosis among young women was somewhat higher than among young men of the same age period. War activities may increase tuberculous infection among women war workers. There is also a possible injurious effect on the children of working mothers, through the care and feeding of these children not having the proper supervision.

The conclusion of his article argues that this is no time for expansion of programs, because neither personnel nor equipment is now available. Casefinding must be carried out with whatever equipment is available, paying particular attention to workers newly come to war industry centers, in order to continue the protection of infants and children from infection.

RADIOLOGY

HILMAR R. SCHMIDT, M.D., Editor, Petersburg, Va.

ON WIDER USE OF X-RAYS

A recent article by S. W. Donaldson¹ gave a veritable catalogue of uses of x-ray in diagnosis. It occurred to me that despite this wide range we are still woefully lacking in fully utilizing even some of the more common processes of this branch of medicine. There are, of course, many reasons, the economic one not the least of them.

The laity is keenly avid for x-ray examinations. They have an exaggerated idea of the information to be obtained and do not realize the limitations of a single röntgen examination. If an examination shows a negative result, the patient is likely to consider it valueless. A campaign for the education of the laity and a wider use by the doctors would seem to be a need of the hour.

To illustrate my point, let us take the case of a pain in the upper abdomen. There are three organs very probably needing to be considered: the gallbladder, the duodenum and the kidneys. Unfortunately, each one of these organs requires a rather special examination. A great deal could be gained if the röntgenologist were allowed to work from one to the other until he had either discovered the seat of the disease condition, or exhausted all of these leads and more if necessary to find the cause.

^{1.} Medical Facts That Can or Cannot Be Proved by Röntgen-ray, S. W. Donaldson in Ann. Int. Med., April, 1943.

If examination of the gallbladder only is requested by the doctor in charge and a negative result is found the patient often feels that he has thrown away his money; yet the doctor in charge is apt to resent any other diagnostic measures being undertaken. This puts the röntgenologist in the undesirable position of having a patient conclude that the diagnostic measure was useless, when its failure to do all that could be desired is due solely to the restriction imposed on the application of the measure. I would urge the referring physician to allow the röntgenologist more leeway. In every case a short description of the case and the diagnostic possibilities should come with the patient. Then the röntgenologist should be permitted to do whatever he thinks is necessary, keeping in touch with the clinician as he proceeds so that the two may helpfully guide each other.

A second reason for dissatisfaction exists in the fact that frequently the referring physician wishes to rush the process. There are cases in which haste is essential, but such cases are few. To do a good intravenous pyelogram the patient should be somewhat dehydrated and as much of the gas in the intestines should be removed as possible. But frequently the physician will ask that this examination be made immediately. To yield to this pressure and make the examination after insufficient preparation is to make an unsatisfactory diagnosis and to bring the use of x-rays into disrepute.

Another matter is the check-up examination after reduction of fractures and dislocations. A backward dislocation of the elbow may show absolutely no bone fracture when it is first brought in for examination. Then the surgeon reduces this dislocation and in doing so he may fracture a small tip from either the ulna or the humerus. When the bandages are removed this fracture may be the cause of serious dissatisfaction. It is not fair to the patient or to the doctor to make these reductions without checking them thoroughly after manipulation. All of the diagnostic processes need cooperation between the referring physician and the röntgenologist, some much more than others. For example, lipiodol injection into the lungs, retrograde urography, and lipiodol injection for examination of patency of the fallopian tubes, should all be done with the close cooperation of surgeon and röntgenologist. This requires a careful scheduling of the procedure and each party must try to save time and each other.

With greater coördination and coöperation between the various physicians, x-rays could play a far greater part in diagnosis than they do at the present time. The referring physician should always remember that the röntgenologist wishes to give his best services as a consulting physician and that he will further the interests of the referring physician in every way possible.

ORTHOPEDIC SURGERY

THE EMANCIPATION OF ORTHOPAEDIC SURGERY¹

IT WAS IN THE YEAR 1841 that the term Orthopaedic Surgery first appeared in a book by Valentine Mott, of New York City. He defined it as the combination of Mechanical and Operative Surgery "which had inaugurated a new era in the healing art."

The storm centre was New York. "All or nearly all the advance in the use of modern methods of caring for the deformed poor may be ascribed to the influence of four great men": James Knight, Charles Fayette Taylor, Henry G. Davis and Lewis A. Sayre.

Sayre was the first professor of orthopaedic surgery and the author of the first book under this title. He regarded it as a branch of surgery and included diseases of the joints, fractures, dislocations and clinical surgery as within his professional jurisdiction.

The three others, although at odds with one another, were united in their opposition to Sayre, and to all that he represented. Davis practiced what he called conservative surgery, defined by a quotation from Hippocrates as "A Mode of Cure, and it requires neither cutting nor burning nor any other complex means." He originated the "American treatment of hip disease" by "continued elastic extension" which, by permitting motion without friction, conserved the function of the diseased joint.

Taylor never wrote a prescription nor performed a surgical operation. His original interest was in physical culture. For a time he conducted a gymnasium and he invented many machines for passive exercise. An unfortunate experience in the treatment of Pott's disease by such means turned his attention to "protection" and led to the invention of the "spinal assistant."

The spinal assistant was provided with two hinges, allowing the instrument to bend backward but not forward, "in order to allow the muscles to act when they wanted to protect the affected vertebrae completely in case the muscles should tire and relax." Thus the spinal assistant, in combining voluntary motion with protection conformed in principle to Davis' motion without friction and, in this particular, Sayre was also in accord with Davis.

Knight was an ultra-conservative, who rejected all the advances modernly credited to his colleagues in favour of expectant or constitutional treatment of chronic joint disease. This required a constant personal supervision, practicable only in

^{1.} Royal Whitman, in Proc. Royal Soc. of Med. Lond.), May.

a hospital under single control. "With this impression we introduced the initiatory efforts in our own dwelling" under the title of Hospital for the Relief of the Ruptured and Crippled.

The essentials of the expectant treatment were "enforced hygiene, regular and nutritious dietary, tonic remedies, and above all bodily activity. No child able to hold up its head is ever kept in bed during the day and all able to walk by pushing a chair in front of them have thus to exercise."

Knight practiced what he called surgico-mechanics, to which his distinctive contribution was a truss: thus rupture took precedence in the hospital title.

Knight's initiatory efforts fulfilled all his expectations, for he was able to report that "75 per cent of the variously conditioned patients, laboring under synovitic disease were restored to self-sustaining ability." Within a few years a model building was constructed under his personal supervision. The city paid for the maintenance of the children and provided teachers for their "religious and secular instruction." The treatment was conducted by Knight and a resident assistant. The mechanical supports were home-made, inexpensive and "available to the poorest in the community." Thus since the hospital was self-contained and self-sufficient no change from the established routine was desired or permitted during the lifetime of the founder.

Yet Knight, the static passivist, indirectly and unwittingly made a more important contribution to progress than any of his militant colleagues. For his liberal interpretation of the scope of surgicomechanics, which included every disability that might be relieved by bandaging or bracing, irrespective of the sex or age of the patient, provided the clinical material for future development on a broad scale.

When I joined the staff in 1889 the hospital was still essentially a home for the relief of crippled children, but Knight's successor, Gibney, had improvised an operating room and in succeeding years surgery steadily encroached upon expectancy until it became the dominant factor in the treatment of both the ruptured and the crippled. In Gibney's first report, there were but 237 operations, 162 of which were subcutaneous tenotomies and most of the others were for the complications of tuberculous disease. In 1929 there were 1,875 orthopaedic operations and 1,647 for hernia. For the ruptured, radical cure had supplanted the truss and for the crippled, reconstructive surgery, implying the readjustment of the statics and mechanics of the disabled member had greatly extended the operative range. Yet although the operations practically equalled in number the admissions to the hospital they involved only a relatively small proportion of the patients under treatment. In 1929 for example, more than 5,000 new cases of so-called flatfoot were recorded. Thus a disability unnoted in Knight's reports nor, from a remedial standpoint, in surgical literature had become numerically the most important constituent of the outdoor clinic.

The American Orthopaedic Association was organized in 1887 to promote mutual toleration of the conservative and progressive factions, in order to qualify, as a specialty for admission to the Congress of Physicians and Surgeons, to be held the following year. At this meeting, the president of the Association was an aggressive upholder of the exclusive practice of mechanico-therapeutics, who permitted no surgery in the hospital that he controlled. He represented the prevailing conception formulated by the American Textbook of Surgery that, "Orthopaedic Surgery has properly to do with deformities and contractions especially by some form or other of mechanical appliance."

In Knight's hospital as late as 1916 more than 600 new cases of tuberculosis of the joints were registered and 35 per cent of the ward cases were of this nature. In 1929 the total had fallen to 80 and the proportion in the wards to less than 3 per cent.

Davis' elastic extension, "which had revolutioned the treatment of bone and joint disease" has been discredited and forgotten. Taylor's inspired "spinal assistant" soon lapsed into a rigid support.

Knight's truss has been discarded. Sayre's "peculiar" views on pathology and treatment have been outmoded and of his numerous contributions to mechanical and operative surgery only the plaster jacket is identified with his name. He has qualified as the "forerunner of orthopaedic surgery," not because of the soundness of his theories but because of his rejection of the restrictions of scope and method which the term orthopaedic has always implied.

The emancipation of orthopaedic surgery was coincident with the establishment of operative surgery as the dominant factor in its title. It transformed an ill-founded and static specialty to an important and progressive branch of surgery. As this transition or recreation has been accomplished during my professional lifetime, I might say in the words of another: "These things I saw and a part of them I was."

SURFACE FILMS FORMED BY BLOOD PLASMA AND SERUM OF PATIENTS WITH CHRONIC ARTHRITIS

(C. W. Scull & Ralph Pemberton, Philadelphia, in Il. Lab. & Clin. Med., June)

One cubic millimeter of normal plasma produced films with areas of 550 sq. cm., whereas the same quantity of plasma from certain severely ill atrophic arthritic patients

produced films ranging from 150 to 450 sw. cm. Films produced by plasma from less acutely ill arthritic subjects attained more nearyy normal areas. These data show that the rheumatic patient suffers from a disorder of the physicochemical pattern of his blood as well as from a pathologic process in his joints.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

DIVERTICULA OF THE BLADDER

DIVERTICULA of the bladder are acquired or congenital. The former occur in persons with long-standing obstruction to micturition (clearing up when this cause is removed) and are found in those parts of the bladder which are least reinforced.

Though diverticula may be secondary to an obstructive factor, there "—is no doubt of congenital origin in those cases in which there has never been dysuria nor any pathological condition that might produce segmentary alteration of the bladder wall."

Congenital diverticulum is usually solitary, more frequent in men, varying in size from that of a pigeon's egg to that of the bladder cavity. Favorite sites the regions of the ureteral orifice, the urachus, the lateral and posterior walls or behind the interureteral ridge.

The seriousness of the condition depends in a large measure on the location, those of the posterior wall and those in the ureteral region being the most serious. Complications are most likely to arise when the orifice communicating with the bladder is narrow and the pedicle long.

Difficulty in urinating and urinary retention, usually the first symptoms, favor infection with chills and fever. The functioning of the kidneys may be affected to produce uremia, but symptoms may be lacking (when the orifice is large and there is no obstruction to urination), and the condition may only be discovered during cystoscopy for some other reason.

"When an infectious process has set in, the urine toward the end of micturition is more clouded and generally has a noisome odor." Other complications may include lithiasis (secondary to infection), tumors and perforation of the diverticulum (favored both by infection and the presence of calculi).

Diagnosis may be aided by cystoscopy (1) when there is difficulty in urination and retention is present, and (2) when the patient apparently has cystitis but, on treatment, symptoms entirely disappear and yet the urine remains clouded. When a diverticulum is complicated by lithiasis and infection, x-ray examination usually shows the calculus and cystoscopy differentiate (a) vesical cal-

culus with diverticulum, (b) vesical calculus and diverticular calculus and (c) diverticular calculus. "Where a tumor is the complication and there is no infection then hematuria may be the only symptom." If cystoscopy is performed when there is hematuria it will be observed that the blood comes from the diverticulum. If there is no hematuria, it may be provoked by pressure on the inner surface of the diverticulum by means of a ureteral catheter.

Intervention is not recommended when the condition causes no disturbance. Where urethral stricture, adenoma of the prostate, disease of the bladder neck or hydatid retrovesical cyst exists in addition, and makes urination difficult action is advisable.

Llanos outlines the surgical approach in different regions. Where an acute infectious process accompanied by fever exists cystostomy is the first indicated, completely draining the bladder and diverticulum (or -la), to be followed later by the usually indicated operative procedure. In the case of a diverticular lithiasis, the diverticulum and calculi are to be resected in a single block if possible. If a malignant tumor is present, the tumor mass must be resected together with a large part of the surrounding bladder wall, even sacrificing the kidney or doing a uretero-cystostomy. If the tumor is benign, and is situated in the region of the ureter, submucous excision can be performed.

When there is a perivesicular or intraperitoneal perforation, operation should be delayed until a complete drainage operation has been done.

Where ureteral and renal complications occur the procedure may vary. With moderate dilatation and the kidney function satisfactory resection of the diverticulum is indicated.

Nephrectomy and diverticulectomy are indicated where there is complete destruction of the kidney. Where pyonephrosis exists it is preferable to remove the kidney first, then the diverticulum.

Two Additional Cases of Traumatic Winged Scapula Occurring in the Armed Forces

(Major Charles U. Hauser & Major William F. Martin,1 Medical Corps. U. S. A., in Jl. A. M. A., Feb. 27th, 1943)

Two cases of paralysis of the serratus anterior muscle seen at the Station Hospital, Langley Field, Virginia, are reported because of the rarity of this condition and the unusual cause of these 2 cases—1) lifting a garbage can; 2) an automobile accident in which the victim's car was overturned and crushed under a Pullman car, the patient being pinned for two hours in the front seat of his car in an inverted position with his left arm jammed against the door and most of his weight resting on his left shoulder.

Treatment in Case 1 consisted of application of heat to the shoulder, the arm supported in a sling. The patient was hospitalized for three months before sufficient power returned to his serratus anterior muscle to enable him to fix his scapula.

^{1.} Dr. William Francis Martin, of Charlotte, N. C., is now a Lieutenant Colonel.

^{1.} Miguel A. Llanos, J. Urol., 49:628, May, 1943.

In Case 2, to insure immobilization a body cast was applied with a padded cradle for the left elbow, which exerted continuous upward thrust on the shoulder, elevating and fixing the scapula and placing the seriatus at rest in a relaxed position. With the application of the cast and the institution of heat and massage to the shoulder, the patient remained in the hospital 72 days before his muscle power was strong enough to allow him to return to duty.

PEDIATRICS

THE RECOGNITION AND MANAGEMENT OF ATYPICAL RHEUMATIC FEVER IN CHILDREN

Although rheumatic fever, child or adult, is not the affliction with us it is with the New Englanders and New Yorkers, it behooves us to be on guard that none of our patients lose their lives or become life-long invalids through our ignorance and negligence.

The disease, as it occurs in children, is not apt to show typical features. A soundly worked-out article¹ is given in essence.

In the school population it is estimated that there are 1% of children with rheumatic heart diseases. Rheumatic fever is essentially a disease of childhood, the initial attack taking place usually between 5 and 15 years of age, with the average age of onset 7 years. It tends to recur following the initial infection; recurrences diminish after puberty. In other words, the polycyclic types of rheumatic infection are more common before puberty and the monocyclic types after puberty. The highest mortality is in the first five years after infection and it is therefore highly important that the frontal attack be made at this time to prevent the reactivations, which are so likely to occur.

Proof of the author's intelligence is afforded by the fact that he recognizes the general practicing physician as the custodian of the health of most children and directs the attention of "the practicing physician and pediatrist" to the proneness of childhood rheumatic fever to be mild and atypical. A child about the time of the second dentition may be found to have frequent nosebleeds with increasing pallor and to complain of vague and fleeting pains in the extremities; to have a slight fever, an increased heart rate; possibly an increase in the leucocyte count and erythrocyte sedimentation rate. At this early stage although the heart is almost always involved in the rheumatic process, this may not be demonstrable. The ecg. may help us in the prolongation of the PR interval. Manifest symptoms and signs may make their appearance-polyarthritis with extreme pain, erythema multiforme, subcutaneous nodules, fever and tachycardia; and, on examination of the heart, a gallop

rhythm due to the appearance of a mid-diastolic sound, and a murmur usually systolic and heard best at the apex. Only time can evaluate the significance of such a murmur. All we can say is that a carditis is probably present. A pericardial friction rub would strengthen the diagnosis of a rheumatic carditis.

The active phase of rheumatic fever may be ushered in by abdominal pain which may simulate appendicitis. In doubt, have an exploratory laparotomy done.

Chorea may be overlooked in the early stage. It is important to differentiate the irregular choreiform movements from nervous tics and habit spasms. Diagnosis is important because even mild types of chorea may mean very severe rheumatic heart disease.

The younger the child the less likely are the joints to be involved. It is for this reason that rheumatic fever is so often missed in the very young.

The treatment is like to the treatment of tuberculosis—on a long-term basis.

"Should I take my child to a tropical climate?" It is rarely possible to dislocate the life of an entire family, and there is no assurance that such a move will do any great good. The majority of our rheumatic children come from homes of poverty and want. The problem is likened to the vitamin problem. Those who can afford them do not need them, and those who need them cannot afford them.

We should make every effort to protect the rheumatic child from upper-respiratory infections, especially those caused by the Group A beta-hemolytic streptococcus. Although not the cause of rheumatic fever it may act somewhat as a detonator, to set off an unknown factor X, the whole process resulting in rheumatic fever in susceptible individuals. The child can best be protected by proper isolation in the hospital, a sanatarium or a convalescent home. If these are not possible, care can be given in a well supervised foster home. "The latter is less costly and has certain advantages."

The sulfonamides are contraindicated in the active phase of the rheumatic infection and usually do more harm than good.

Complete rest in bed is our main dependence during the acute and subacute stage of the disease. We should exercise every care before we label a child as a cardiac. Too many children are being taken care of in heart clinics or by private physicians without justification. They have been condemned for years to a life of partial invalidism merely because of a heart murmur. This is indefensible. It is all too easy to develop an invalid reaction in these children, and have them grow up

with feelings of insecurity, inferiority and anxiety states, and make up in adult life, in great part, the group of "cardiac neuroses."

The care of the child with rheumatic heart disease involves problems in education, in occupational therapy and in vocational guidance. There is not only the heart to be treated, but there is the child who has the heart.

KAPOSI'S VARICELLIFORM ERUPTION

(R. L. Barton et al., in Proc. Staff Meet, Mayo Clinic, June 30th)

Kaposi's Varicelliform Eruption is a rare exanthem similar in many respects to variola of vaccina with a constitutional reaction of unusual severity. In almost all cases some form of antecedent skin disease has occurred. We found records of 64 cases; 50 patients three years of age or less. There were 17 deaths.

The disease begins suddenly with fever, and an acute outbreak of numerous, clear vesicles which are usually umbilicated, scattered or in groups. The underlying skin is red and swollen and the regional lymph-nodes tender and enlarged; vesicles develop over night in large numbers in successive crops for three or four days or even a week, become pustular, rupture, or desiccate leaving superficial pitted scars. The bulk of the eruption is confined to the sites that have been involved by the previous skin disease—the face, ears, neck and the V on the thorax—although smaller groups of late lesions may appear on the intact skin of the shoulders, trunk, genitalia and here and there on the extremities.

A high fever reaches its peak at the crest of the eruption; there are headaches, cough, diarrhea and abdominal pain; not uncommonly stiff neck, rigidity, muscular weakness, incontinence and convulsions. The course is one to two weeks, the fever terminating by lysis.

The cause is unknown; in one instance 16 cases occurred in a ward for children, five of whom died.

Cultures from the vesicopustules yield a variety of pyogenic organisms. Some hold the concept of a virus as the causative agent.

It is similar to eczema vaccinatum which occurs in eczematous infants following vaccination or exposure to vaccine virus. Successful vaccination is no protection against this disease. Often the correct diagnosis is not apparent until the disease has run its course.

TWO CLINICALLY USEFUL SIGNS

I. THE WHISTLE-SMILE REFLEX IN THE PARKINSONIAN SYNDROME

II. THE "NEPHRITIC STARE" IN CHRONIC NEPHRITIS (F. M. Hanes, Durham, in Jl. A. M. A., April 3rd)

The normal individual asked to whistle does so and then smiles; the patient suffering from the parkinsonian syndrome does not smile after whistling.

Thirty years' experience with the eye signs of Bright's disease, which are similar in every way to those seen in toxic goiter, has proved that they are frequently useful in differentiating cardiac breakdowns as a result of chronic kidney disease from those due to other causes. The "nephritic stare" does not serve to differentiate various types of nephritis.

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

BEERS

A GOOD MANY YEARS ago there came to me from the Editor of the Greensboro Daily News a volume, with an accompanying note, asking me to review the book for the Book Review Section of the Sunday edition of the paper. The volume was another edition, perhaps the second, of "A Mind That Found Itself", by Clifford Whittingham Beers.

In 1908 Mr. Beers had shaken the complacency of the literate people of our country by telling them in a sizeable book how he had felt, how he had thought and how badly he had often been treated in more than one hospital during his own sickness that the world speaks of generally as insanity. In that first edition Mr. Beers spared neither himself nor the management of those hospitals in which he had been a patient, nor the public for its indifference about the care of the mentally sick folks in the United States. I appreciated the opportunity afforded me by the editor's request for communion with the readers of the paper about a problem, large and complex, with which almost every family sometimes has to deal. A copy of the revised edition had already come to me from the publishers, and I had read, of course, the first edition as soon as it had come from the press. The Daily News captioned my review of the new edition thus: All the Way to Hell and Back. Mr. Beers afterwards told me that my review was pleasing to him and that the caption accurately epitomized his dreadful experiences.

Now, Clifford W. Beers is physically dead. For many months he had been a patient in Butler Hospital, at Providence, Rhode Island, and there he died on July 9th, 1943. It was fitting for him to spend his last months in Butler, one of the oldest and one of the best hospitals for the care of the mentally sick in this or in any other country. It is presumed that physical changes coincidental with the roll of the years had brought on the condition that caused Mr. Beers to seek asylum amongst those with whom he had laboured for almost half a century in behalf of betterment of the mentally sick; at first in this country, eventually throughout the world.

Some of the words in our English language are so comprehending in their elasticity that we project into them a vagueness of meaning that makes them sometimes almost meaningless. Such a group of words includes health and sickness and welfare and justice and normality and patriotism and sanitation and sanity and hygiene. But there is no vagueness associated with the results of the application of

sanitary engineering to Cuba, following the Spanish-American War; nor to the Isthmus of Panama, incidental to the opening of the Great Canal. Both Havana and the Canal Zone have been transformed from pestilential areas into health resorts—all because sanitation has a definite, though an elastic, meaning.

The mental sickness of Clifford W. Beers necessitated his removal from his home and his admission into a hospital for the care of the insane. His own mental condition became such as it had never been before; his condition caused him to become a patient in an environment that he had probably never imagined. He was troubled and distressed by the transformation that had taken place within him and even more so, perhaps, by the weird environment from which he could not escape, to which he could not adjust himself, and about which he could do nothing but complain and rebel. He was, to be sure, living in Hell, and in such a Hell as he had never known; and he fought against it. Finally, he either escaped from that Hell or he looked upon its dissolution around him and within him

Then he did what Saul did after he had heard the Call. Paul became a peripatetic advocate of the New Life. He went amongst men, and he stood before them, and he was probably not physically appealing; but he was learned, he was well-born, he was a native of a great metropolis, and he knew the ways of the world. No other missioner, before or since St. Paul, has probably appeared in person before so large a percentage of the world's people and spoken directly to them. Nor has another, save Jesus, so moved mankind, Socrates, many vears before, had moved about amongst men and reasoned with them about their attributes and their qualities. He seldom addressed an assembly: he had no school-room nor auditorium in which he could pedestalize himself on a rostrum. Socrates spoke to those who would listen, as he walked with them, from the earth's level. He expressed no concern about the city's streets and its buildings, nor about their stocks and bonds and other wealth. He reasoned with them about their mental and their spiritual states. But Socrates made himself pestiferous to those in charge of the city. They prosecuted and convicted and killed him. Later generations treated Paul equally as badly. But man still turns to Socrates and to Paul for understanding of himself, for guidance in the search for Truth, and for examples of courage, when hostile forces are threatening. And Socrates and Saul live on and on.

Clifford W. Beers, too, is one of the immortals. But he had to clamber up the rough road along which all crusaders must go to reach the crest of the hill. Mr. Beers gave the world modern mental

hygiene. His own sickness caused him to believe that many a mental breakdown could be prevented, just as many pestilential physical epidemics are being prevented, by the utilization of scientific knowledge in the practice of medicine, private and public. In retrospect, after his recovery, Mr. Beers realized that fear had caused him to make misinterpretations and that to him the consequent unrealities became dreadful realities, that encompassed him and all but overwhelmed him. But no one, save himself, knew of the content of that psychopathic state into which mental sickness had taken him. In that new world he was the sole inhabitant; to him no one would or could come; from it he could not escape. Omar's verse expresses man's predicament:

I sent my Soul through the Invisible, Some letter of that After-Life to spell: By and by my Soul returned to me, And answered: I myself am Heaven and Hell.

In 1908, I think, Mr. Beers organized in Connecticut the first mental hygiene organization with only a few members. But some of them, at least, were consequential. He organized such societies in other states. To him we are indebted for the National Committee for Mental Hygiene, of which he was both Founder and Secretary. He brought into being the Foundation for Mental Hygiene. His influence brought to Washington in 1930 the conjoint meeting of the American Psychiatric Association and the International Congress on Mental Hygiene.

Mr. Beers was a native of New Haven and a graduate of Yale. He carried his appeals in behalf of the care of the mentally sick to many of the prominent people of this country—lay people and medical people. William James, Professor of Psychology in Harvard, supported him and became a strong advocate of the cause of mental hygiene; so also did Dr. Welch, of Johns Hopkins, whose work was with tissue. Many of the wealthy came to the help of Mr. Beers; and so did many distinguished individuals in such learned professions as the ministry and the law.

The National Committee for Mental Hygiene, with headquarters at 1790 Broadway, in New York, is one of the most far-reaching medical organizations in the world—in influence and in practical activities. Out of its insistence have come most of the thought about the preventive work in mental disease; and the Committee has brought into being psychiatric work amongst school children, investigation of the mental condition of prisoners, and the introduction of psychiatry into the courts. The Committee is largely responsible for all of our child guidance clinics. That splendid

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publication that all people should read—Mental Hygiene—is largely the voice of Mr. Beers. The Committee for Mental Hygiene sends forth through its pages in easily understandable language reasonable accounts of much human behaviour that would seem otherwise to be senseless.

Clifford W. Beers suffered much. He gave his life and even his suffering as offerings for the benefit of others. He performed a psychiatric biopsy upon himself, and he published the report of his pathological investigation of himself. In that respect his performance was unique. Not many mortals could call forth the courage that would enable them to eviscerate themselves psychologically in the presence of all mankind. Mr. Beers did that. He did it for the benefit of mankind. His influence will continue to stimulate the division of mental medicine and to make itself felt wherever human behaviour is a matter of concern. He belongs in the category of the benefactors of mankind.

DIEFENDORF

THE DEATH at his home in New Haven on July 30th of Dr. Allen Ross Diefendorf, at the age of seventy-two, removes another psychiatrist who had made a distinctive contribution to the specialty. He was a graduate in medicine of Yale University. He had come into the upper levels of psychiatry by those slow but impressive gradations as assistant physician in State Hospitals. Perhaps while he was still an assistant physician the house of MAC-MILLAN brought forth from his pen the textbook, Clinical Psychiatry, that enjoyed both popularity and usefulness. Dr. Diefendorf wrote clearly and concisely and he apparently experienced little difficulty in defining abstruse conditions. Partly for that reason his book was often made use of as a reference volume. I think I remember, however, that MACMILLAN'S were not able to interest him in keeping the volume revised and up-to-date, while so many changes were taking place in psych-

Dr. Diefendorf was a member of the teaching Staff of the Yale Medical School for many years. I knew him, but not intimately. He impressed me as a modest, learned gentleman who was disinclined to insistence upon asserting himself. And sometimes I have wondered if his professional enthusiasm had waned before he became old. I think of his textbook as constituting the introduction into this country of the new German thought about psychiatry.

Opiferque Per Orbem Dicor

(E. J. Marsh, Paterson, in Jl. Med. Soc. N. J., July)

Humanity, individually or collectively, is often unwilling to pay in terms of its habits, conveniences, prejudices, or pleasures the price of what Medicine has to offer for its relief and cure. This is, and of right ought to be, within the privilege of choice of a free people. "Freedom that does not include the right to be unwise, to be mistaken, to be wrong, is not freedom."

If the American people can maintain its freedom from the benevolent designs of its self-appointed guardians, we will do our share, as a part of the people. And then we may hope to continue gladly and freely as bearers of aid throughout the world.

THE ETIOLOGY OF THE MIGRAINE SYNDROME (Carl Pfeiffer et al., Chicago, in Il. Lab. & Clin. Med., July)

The pain-sensitive structures within the cranial vault are the cranial blood vessels (arteries and veins), the dura, the tentorium cerebelli and the falx cerebri. Various fluid pressure forces might cause an increased excursion of the blood vessels or an abnormal stretch of the supporting membranes. Since the headache due to changes in cerebrospinal fluid volume and brain volume is self-explanatory, the discussion is limited to the changes in effective blood volume and peripheral vascular tone. While data are not available on effective blood volume or cardiac output changes in nitrite or histamine headaches, it is suspected that since these headaches do not occur at the time of the hypotension from the drugs, they may be connected with the rise in b. p. following the period of hypotension.

The treatment of migraine headache should, then, be directed at increasing the blood volume or restoring an intense peripheral vascular tone by strong smooth-muscle stimulants, such as ergotamine tartrate or amphetamine sulfate. When this is effectively accomplished, the excessive excursion of the cerebral blood vessels subsides with subjective relief.

A PRINCIPLE FROM LIVER EFFECTIVE AGAINST SHOCK DUE TO BURNS

(Myron Prinzmetal ct al., Los Angeles, in Jl. A. M. A., July 10th)

Lederle liver extract containing 15 injectable U. S. P. antianemia units (henceforth referred to as 15 unit liver) was injected intraperitoneally in a dose of 1 c.c. per hundred grams of body weight one-half hour prior to scalding. In 19 experiments on a total of 1100 mice liver pretreatments decreases the mortality which follows burns.

There is a principle in liver not identical with the antianemia principle which possesses the activity of combating shock due to burns. The liver principle effective against burn shock is not readily destroyed by heat or aeration.

Nine-tenths per cent solution of sodium chloride in amounts equivalent to 5 or 10 per cent of the body weight is effective against burn shock when given either after or 30 minutes prior to trauma. Pretreatment with liver extract plus large amounts of 0.9 per cent solution of sodium chloride is much more effective than salt solution alone.

The liver factor described and large volumes of salt solution are the only agents which, in our hands, have been found effective in burn shock; adrenocortical hormones, thiamine chloride and other vitamins being without significant action.

LEUCOPENIA IN INFECTIONS (P. C. Cook, in R. I. Med. Jl., July)

After the injection of a foreign protein, as typhoid vaccine, or after an allergic reaction cells are sequestrated in the liver, lungs, etc., and decreased in the peripheral blood—a temporary and unimportant process. The infections which typically produce leukopenia are typhoid, paratyphoid, tuberculosis, malaria, measles, German measles and influenza. An initial leukopenia is succeeded by a leukocytosis in smallpox, the virus pneumonitis and infectious mononucleosis.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

TRANSURETHRAL PROSTATIC RESECTION

THE VAST MAJORITY of all cases of hypertrophy of the prostate gland can be best treated by transurethral resection. Practically the entire gland is resected in many instances and the patient given almost complete relief.

There is, however, considerable misunderstanding on the part of the laity as to the serious nature of and the results to be expected from this operation. At one time it was publicized in such a way as to give the impression that it was a minor operation with almost universally good results and few or no complications.

The resection of the prostate gland, while the safest method for routine use, requires certain special training, equipment and precautions. No patient should be allowed to approach the operation viewing it as other than a grave procedure.

The preparation for operation, just as important as for a suprapubic or perineal operation, sometimes requires days or even weeks. In many cases it is necessary for a patient to remain in hospital for a week, or even two weeks or more. Complications develop mostly within four to six days, and during this time a great many things may be done in the way of preventing their development.

After removal of the obstructing portion of the gland the patient can usually void frely. There is a stinging and burning sensation on voiding until the operative site is healed over. After the first week or ten days this is usually negligible, gradually passing away entirely.

The two complications most to be feared are infection and hemorrhage. Fresh or clotted blood usually can be washed out through the resectoscope sheath, using an irrigator syringe. Any bleeding vessels should be coagulated. Then the catheter should be reinserted for a day or so, and sulfathiazole or sulfadiazine 7½ grains, given daily for three to four days. Most of these patients are seriously ill to begin with and it sometimes takes only a small amount to clear up the trouble.

Many of these patients are suffering from avitaminosis—usually a one-sided diet. It is well to give most patients thiamin chloride intramuscularly and capsules of multiple vitamins orally for a few days before operation. A blood transfusion will often help greatly in getting a patient in good condition. Glucose and saline intravenously, or 5 per cent glucose alone, 1000 c.c. once daily, often will aid in promoting kidney function. A well-rounded, appetizing diet should be supplied and every effort made to see that the patient eats it.

Individual preferences and tastes should be consulted and humored so far as is possible.

Any existing cardiorenal disturbance should have appropriate attention before the prostate gland is resected.

After operation the patient should be up and around as early as possible. Usually by the fourth day the catheter is removed and the patient can sit up. Eight or ten days spent in the hospital is profitable to patients who have an unusually large prostate, or in those cases in which complications may be expected.

A routine examination for all such patients should be a flat plate of the kidneys, ureters and bladder so as to detect any calculi that might be present. Unless this is done, now and then a stone will be found loose in the bladder, or perhaps two or three.

Where there is continuous drainage the patient should be up and around, it is well to arrange the catheter so that it can be unplugged, the urine passed, and the catheter replugged as necessary.

THE TREATMENT OF ANGINA PECTORIS WITH TESTOSTERONE PROPIONATE

(M. A. Lesser, in New Eng. J. Med., 228:185, 1943)

A favorable response to testosterone propionate in a series of 24 patients with angina pectoris caused an additional 22 cases to be so treated. The frequency, severity and duration of attacks were diminished, and all patients were able to increase their physical activity considerably without an attack of pain. A total of 46 patients responded favorably to testosterone propionate with, in some cases, freedom from anginal pain 18 months following discontinuation of treatment. No untoward effects from the use of this drug were noted, and in the majority of cases there was a lowering of blood-pressure levels during the course of the treatment.

THE SIGNIFICANCE OF THE GROSS CHARACTER OF THE SPUTUM IN THE PROGNOSIS OF PNEUMOCOCCIC PNEUMONIA

(A. W. Frisch et al., Detroit, in Jl. Lab. & Clin. Med., July)

The gross character of rusty sputum in 650 cases of pneumococcic pneumonia was correlated with standard prognostic criteria and the outcome of the disease. Those patients who produced small amounts of viscid rusty sputum were classified as dry lungs, whereas those who raised large quantities of homogenously rusty sputum thick or thin, were classified as wet lungs. The pneumonia in the former group was mild, in the latter group much more severe fatality rates 6% and 23%, respectively. There were important differences in the number of pneumococci in the sputum, the extent of consolidation and the incidence of bacteremia and leucopenia.

The gross character of the sputum was of distinct value in the prognosis of pneumococcic pneumonia.

CASEC now measures six packed level tablespoonfuls instead of 12 level tablespoonfuls, as formerly, so that directions to the patient should be amended accordingly. Casec has proved serviceable in colic and loose stools in breast-fed infants, and in fermentative diarrhea, malnutrition, celiac disease and prematurity. Mead Johnson & Company, Evansville, Indiana.

IMPROVED TECHNIQUE

A New Technique for Demonstrating Calculi in the Parotid Gland

WENDELL E. ROBERTS, Charlotte, N. C. From the X-Ray Department, Charlotte Eye, Ear and Throat Hospital

Demonstrating calculi in the parotid region, at best, is many times a very difficult task. The most frequent cause of failure to demonstrate such stones is the superimposed shadow of the mandible. This structure is usually rather radiopaque. In addition to this, these stones are frequently of such a composition and density as to blend into the mandible shadow or be completely obliterated by it (Fig. 1). Even stereoscopic radiographs, in many positions, sometimes fail to reveal parotid calculi.



FIGURE I: Lateral view showing only a very slight suspicion of a shadow of a calculus underlying the ramus of the mandible. This shadow blends into the other structures so that it is questionable.

Consequently, any technique which would enable us to demonstrate a larger percentage of such stones would be a valuable asset.

No doubt a good laminagraph would help although we have not had the good fortune to own such an apparatus.

Consequently, in studying over the possibilities in connection with this problem it occurred to me that each patient brought with him his own apparatus for aiding in demonstrating such stones, his own mandible. By having the patient move the jaw back and forth as is done in talking, we could at least partially obliterate (Fig. II) the shadow of the mandible and in this way bring out the shadow of any stone which might be hidden by the lower jaw (Fig. 1). The rapidity of motion which will best obliterate the bone's shadow will vary with the density of that structure. Each case will require a little experimenting to determine this point. As a rule the more dense the structure of



FIGURE II: Lateral view taken with the mandible in motion. Calculus sharply outlined.

the mandible, the more rapid should be its motion and, conversely, the more fragile the slower the movement requisite for optimum results.

So far I have not had many opportunities to use this technique, but report it so that others may try it if they so desire. I do not think this is a panace afor all of the difficulties encountered in this type of röntgenological work, but in my experience it has been an extremely valuable addition to our technical armamentarium.

This technique has been of considerable help in making a positive diagnosis in cases which revealed clinical evidence of a stone or stones. Often the conventional technique reveals little or no evidence which could be considered definite. However, these same cases give an entirely different impression when the pictures are made with the mandible in motion.

DIGESTION AND THE NERVOUS SYSTEM

(J. E. Thomas, Philadelphia, in Amer. Jl. Dig. Dis., June)

It has become increasingly evident that disorders of the alimentary tract, peptic ulcer in particular, must be regarded as the major medical disability of wartime. Sir Arthur Hurst in his book on medical diseases of the war observes that "Dyspepsia is the largest single type of disease in the British Army and from several points of view the most important medical problem of the war."

Dr. Ivy has quoted Josh Billings to the effect that a reliable set of bowels is worth more to a man than any quantity of brains. What Josh Billings apparently didn't know is that the quality if not the quantity of the brains has a lot to do with the reliability of the bowels.

WITHIN THE WORKSHOPS (H. Joules in Proc. Royal Soc. of Med. (Lond.), April) the physicians should persuade women that a balanced dietary is essential in the maintenance of effective health and output, for while moderate health may be possible in the home on such dietaries as those above, nothing but catastrophe can be expected if they are continued while on strenuous factory work. As a profession we should stress all possible preventive measures and should not be content to await catastrophe before exercising our art.

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A TRIBUTE TO WILLIAM REVERE WELLBORN, M.D.

"Now is the stately column broke, The beacon light is quench'd in smoke, The trumpet's silver sound is still, The warder silent on the hill!"

These moving lines first fell from the golden pen of Scotland's immortal bard—Sir Walter Scott. They were written in tribute to the memory of one of England's most illustrious statesmen—William Pitt, the younger.

And now this writer quotes the lovely lines again—this time, not in honor of a statesman clothed in high acclaim, but of a Family Doctor robed in the garments of loving gratitude, which vesture is his by gift of men, women and children in token of the esteem in which they held him.

To live and die in the service of humanity—that is Medicine.

On the 24th of May Dr. William Revere Wellborn, of Elkin, North Carolina, came to Journey's End.

To the sick man the doctor is a father,
To the man in health—a friend.
The sickness passed and health restored—a preserver.

The family doctor may not leave wealth worth the counting nor writings worth the reading; his children may be none or forgotten; his sense of song and note little better than the tom-tom of the savage, and he may have an unborn appreciation of art; but when he answers his last call and walks out into the darkness of night to go on and on and on, never to return, the people will realize that during his life he has scattered an influence of kindness, thoughtfulness and tolerance to all those with whom he came in contact; that he has given to posterity something valuable and unforgettable, and that posterity will pronounce him a success.

The American family has been losing this best friend, the family doctor. He was the man who knew every member of the family, the life history of each person, his or her inheritance, his or her frailties. He knew when medicine was needed and when sympathetic advice was ebtter than pills or potions.

The family doctor was a force in the community with influence beyond his profession. On him the affection of the public for the medical profession was largely founded.

Still, almost every community in America is familiar with the doctor who has an office, treats patients during the day and spends a good part, sometimes all, of the night visiting patients and taking care of those who are ill at their homes, or in the arduous any trying task of caring for obstetrical patients. Most general practitioners are heroes. Without acclaim and without medals, they go about their daily work ministering to the sick and distressed, quietly and unobtrusively.

A doctor with a well-established general practice not only ministers to the sick; he comforts those who are distressed and sorrowing, and is the main dependence when any calamity befalls human beings. He cares for the mother at childbirth and for those who are passing out of this life, a confidant and friend of the families whom he

Every day a busy doctor performs herculean tasks as a matter of course. Only another doctor can appreciate the many things which a doctor does for his patients and the families whom he serves so faithfully. Not only in sickness but in time of other kinds of distress which are becoming so multitudinous, he allays the fears and anxieties and mitigates the grief and mental suffering of those in distress. Only the Lord and another doctor can appreciate just what makes up the life of one who practices medicine from the standpoint of a doctor and a humanitarian.

The family doctor sees people as they are, and in his daily rounds he recognizes in others the frailties of human nature, but withholds judgment and tries to relieve those things that have been caused by the thoughtless and irresponsible and ministers to the sick all alike. As a one-man life-saving station, the family doctor is an institution himself. He has had a profound influence upon the American way of life and that influence has been for the good of mankind.

Doctors are not always appreciated as they should be. In fact, most doctors underestimate their own usefulness in the life of a community. Only when they're gone do people realize that a calamity has befallen.

Dr. William Revere Wellborn, after long years of arduous practice, developed a heart condition from which he suffered for the last several years of his life. During this period when he was unable to do the heavy work to which he was accustomed he built an office at his home and did principally office work.

Dr. Wellborn was a native of Ashe County, but later his family moved to Wilkesboro. His home at that time was in a grove of mighty oak trees, which stand today. After graduation from Davidson College he attended the North Carolina Medical College, from which he was graduated in 1905. He was a good student and after graduation took an internship and later post-graduate work in New York.

Dr. Wellborn practiced for a very short time at Coleridge, Randolph County, and then removed to Elkin in 1909, where he built up a large and successful practice. He was a charter member of the Elkin Kiwanis Club, an Ancient Free and Accepted Mason, a member of the Staff of the Hugh Chatham Memorial Hospital, as well as a member of his County and State organizations, and the American Medical Association.

Dr. Wellborn was an active member and elder of the Presbyterian Church and was one of the members who was instrumental in the erection of the new church building.

Always keenly interested in every phase of medicine, he kept up-to-date. He was a good doctor.

Dr. Wellborn sleeps. The kindly hands that have brought relief to so many are folded across the quiet breast. The strings of the harp of his life are mute; but the memory of his work of love lives on in the hearts of thousands. Once again there has been fulfillment of the words of an ancient seer: "Men of kindness are taken away." Of a truth, this doctor has been "an hiding place from the wind, and a covert from the tempest; as rivers of water in a dry place, as the shadow of a great rock in a weary land."

In the death of Dr. Wellborn, the community and the medical profession have sustained a great loss. Others will gradually take up the work where he left off, but there will always be that sense of loss by his people, his friends, his patients, and the community as an invisible but permanent memorial to a good doctor who has gone on.

__J. W. D.

ON THE MODE OF EMPLOYING THE HYPODERMIC TREATMENT

Charles Hunter, Esq., late House-Surgeon to St. George's Hospital, London, in Charleston Med.

Jl., 1860

From the Medical Times & Gazette (London), October 8th, 1859.

Among the claimants to the honor of having invented hypodermic treatment is a North Carolinian, Dr. Edward Warren, of Edenton and Raleigh; afterward of Baltimore, Cairo, Paris—the wide world.

In Egypt Dr. Warren was made a Bey; in Europe he was given Spanish, French and other decorations for distinguished services to persons of consequence.

Here is an account of the invention of the hypodermic method as given by a St. George's Hospital surgeon.

The instrument I use has a barrel of glass and silver fittings, and contains a piston which works by a screw-rod, each half-turn of which expels half-a-minim, and two pipes, which screw on and off the barrel at pleasure, made of silver with a

hardened gold point, sharp like a needle and perforated on one side by the oblique opening through which the drops are expelled.

No incision is required for the point is readily passed beneath the skin; no blood is shed, and the operation is no more than the prick of a needle. Having charged the syringe with the narcotic fluid, hold it in the right hand at the junction of the barrel with the pipe, and with the left hand take up between the finger and thumb a fold of the skin and insert with a quick but steady movement the point well through the skin, the direction so that it may run along in the loose cellular tissue beneath. The prearranged number of drops are then introduced by so many turns of the piston. the pipe withdrawn, a finger making slight pressure on the punctured spot, the object being both to steady the skin and prevent any drop of liquid escaping; and lastly, a narrow strip of plaster, cut beforehand and warmed, is placed on the spot.

The site which I most commonly inject is the inner part of the arm. The skin is here thin, easily made tense and easily perforated; the cellular tissue beneath is loose, and readily receives the fluid; there are perhaps more veins here than in some other parts, but they are easily avoided.

Never use more than half the ordinary stomachic dose for males, nor more than a third for females.

Also is given, with credit to another, an account of the satisfactory use of medicine to be absorbed from the mouth. It is not generally known that medicines were given "under the tongue" so long ago. This method's failure of gaining popularity is most likely owing to the unpleasant taste of most drugs of that time.

Dr. Wardrop has shown that there is a remarkable difference in point of time when medicines are absorbed from the stomach or from the mouth, absorption being most rapid from the latter, and the effect more regular and equable. Nor is it difficult to say why; the medicine absorbed from the mouth is taken directly into the general circulation, but when absorbed from the stomach it has en route to pass through the portal system. There is, then, much similarity between the hypodermic and the lingual modes. Rapidity of absorption is the great point in the modus operandi of each; and with regard to the effect they both have the advantages of rapidity, greater efficacy and regularity. Dr. Wardrop's plan is best for the administration of tasteless medicines, for calomel et hoc genus omne: but it cannot be used for those medicines which are nauseating and bitter-not, in fact, for narcotics generally, not for cases of delirium, patients refusing medicine, etc.

Of great antiquity is the administration of the clyster; however, it seems never to have attained great popularity as a means of giving medicine for systemic effect.

By the rectum the want of regularity of complete absorption cannot be done away with. The rectal method is the most advantageous where the object is to administer the smaller doses of narcotics for affections of the intestinal canal, the rectum and the parts adjacent supplied by the great sympathetic, but especially for the speedy introduction of stimulants and nutriment in urgent cases; for liquids introduced by this plan have the advantage of being conveyed simultaneously into both the portal and systemic circulation. The hypodermic, on the other hand, is the more applicable for those cases where the part, requiring the narcotic, is supplied by the systemic circulation, and is under the influence of the cerebro-spinal nervous system.

EDWARD JACKSON, STUDENT AND TEACHER
(W. H. Crisp, Denver, in Rocky Mountain Med. JL, May)

Jackson urged that the most important thing the medical profession could do in this connection was to provide for adequate teaching of ophthalmology, "including optometry," in the medical schools and thus to build up a class of practitioners adequately trained to recognize and treat the defects and disorders of the eye.

Searching for the solution of these problems, Jackson became an active propagandist in favor of activities raising ethical levels.

In Ophthalmic Literature he devoted several editorials to the importance of writing good English. "To permit an idea to pass without formulating it in words," he said, "is to permit opportunity for thought to pass unutilized. Until rendered into words, no thought becomes definite or permanent. Until so fixed it cannot be weighed, compared, estimated, utilized. Exact, definite thinking cannot be done without the choosing of words to fit the thought."

In the Medical and Surgical Reporter for 1896, under the title "The profession, the opticians, and the public," he talks concerning rebates, specialists' fees, and related questions. It seems that the situation 47 years ago was not very different from what we find today. Although admitting that the problem as encountered in Philadelphia was less acute than in any other large city he knew of, Jackson had seen what appeared to be photographs of checks from a firm of opticians, representing the payment of such commissions to a member of the Philadelphia County Medical Society. He had offered to take upon himself "the unpleasant office of preferring charges," provided that those who claimed to know the facts would testify before the Censors of the Society; "but no one was willing to appear as a witness."

Dr. RAYMOND A. VONDERLEHR, a native of Richmond, has been appointed director of District No. 6, of the United States Public Health Service in Puerto Rico and the Virgin Islands.

The newly appointed director was educated at Benedictine College and graduated from the Medical College of Virginia in 1920. He interned at Stuart Circle Hospital and after several years' practice in his home city joined the Public Health Service in 1925.

ABOLISHING PRIVATE MEDICAL PRACTICE

THREE THOUSAND MILLION DOLLARS OF POLITI-CAL MEDICINE YEARLY IN THE UNITED STATES

SUCH IS THE TITLE of a booklet a score or so copies of which came to this desk ten days ago. A subhead reads thus:

A FACTUAL ANALYSIS OF THE MEDICAL AND HOSPITALIZATION PROVISIONS OF THE WAGNER-MURRAY SENATE BILL 1161 AND AN EXPLANATION OF SOME OF THEIR IMPLICATIONS.

The bill may be enacted into law. We do not believe it will. Our reasons for disbelief are these: (1) We have a Government of the People, by the Lawyers, and for the Lawyers; (2) In the common thought Doctors, Preachers and Lawyers are associated as "the three learned professions"; (3) If laws were passed making Doctors public servants on salaries to be paid by taxation, surely Lawyers know enough to see themselves next on the list; then away would go these thousand- to million-dollar fees that lawyers get, even while drawing salaries as Senators and Representatives.

This journal agrees with the National Physicians Committee for the Extension of Medical Service that it behooves us doctors to take some action to meet the situation. It doubts if it can agree on any details; for in its opinion the glorification of the specialist and of the hospital by the powers that be in medicine is largely responsible for the movement for medical care by taxation, and it has no idea that a one of the fourteen specialists* who make up the Board of Trustees of the National Physicians Committee would agree to any action based on recognition of the fact that family doctors are entirely competent to care for some 85 per cent of the illneses of their patients in their own homes, and that the dissatisfaction with costs of this kind of care is negligible.

The Committee on the Cost of Medical Care of 20 years ago was made up of 16 specialists of various sorts-many of them not patient-treating doctors at all-and one lone family doctor. The Executive Committee of the Physicians Committee consists of 13 full-fledged specialists, assorted, and one member after whose name in the Directory is an S without an *! Ephraim is joined to his idols. Everybody knows that at least three-fourths of the medical care, preventive and curative, rendered in this country is by the hands of the general practitioner, that at least a third of the patients in hospitals would be as well or better off in their homes, and that vast majority of those who need hospital care are kept in hospital from 50 to 100 per cent longer than serves any good purpose.

*One of them is listed in the American Medical Directory as only a partial specialist; the thirteen are, by their ewn accounts . . . pure.

Medical education is in the hands of specialists, each, inevitably, with an exaggerated idea of the importance of his own field. The specialist is touted in newspapers, from the pulpit, from the rostrum, at Luncheon-Club meetings. All the general practitioner can hope for is a few words when he dies, the gist of which is he worked hard in his humble station, and did the best he could. It has been told so often that it must have happened many times—the story of a lawyer taunting a doctor on the witness stand with: "As a matter of fact, you are a general practitioner, pure and simple, are you not?" And getting the reply: "Tm a general practitioner, reasonably pure, I hope; wholly simple, I know."

Ninety-five per cent of our people are able and willing to pay for the medical, surgical and hospital services that they need. They have been taught by the powers that be in medicine that only the specialist in obstetrics is competent to usher a being into the world, that a specialist in pediatrics must be standing ready to take charge of the infant as soon as the cord is tied—and so on through the whole gamut; with some confusion as to whether dermatologist or ophthalmologist is to treat disease conditions of the eyelids, whether syphilologist or cardiologist has exclusive jurisdiction over aortic aneurysm.

Brush the cobwebs from your mind and go into any hospital for acute disease conditions and make a survey, with these questions in your mind as to the hospital at all; (2) Need his patient have come to the hospital at all; (2) Need he or she have been here so long before the principal treatment which was the reason or excuse for admission was given; (3) Need he or she have remained so long; (4) What, other than the time of the doctor (which is being amply compensated anyhow), is being husbanded by this hospital stay.

Grover Cleveland once remarked we are confronted by a condition, not by a theory. A lot of folks, not all of them nitwits, view this subject along these lines.

In the current issue of one of the best of medical journals, the President of a State University* of the first rank says a lot to which we would do well to hearken. He promptly aligns and allies himself with the non-specialists, the general practitioners. He asks the pertinent question: "Can we justify ourselves to our constituents?" Also he says, this, too, pertinently: "It is not enough to be right. It is important, also, to have others believe we are right."

This gentleman and university president believes that our profession "has suffered a decline in the confidence and regard of the public." He mentions only two causes: (1) "The profession is over-

^{**}Desiden* University of Iowa, Jour, Iowa State Med, Sec.

specialized," and (2) "The cost of specialized service is too high."

This university president is firmly of the opinion that "the respect with which the profession is held does not spring from the size of the doctor's fees but from his qualities as a man and as a practioner." He goes on to say that he has found it impossible for himself and his children to be treated by the same doctor "even though we all suffered from a common cold," and "the care in each case was excellent, but the costs were high."

This same highly-educated gentleman, sympathetic with, because allied with and a member of the alleged intelligentzia, is a reluctant witness. "No one was compelled to call a specialist," he testifies; "there were some general practitioners available." But he recognizes the fact that they were well-nigh compelled to consult specialists. They had to be with the haut ton. He goes on to say: "What I have said illustrates a point of view which I believe is spreading. The suit in the District of Columbia, and agitation against your various associations are further evidence, if evidence is needed [ominous words, indeed] that the relations of your profession to the public should be a matter of concern to all of you."

So, there are at least two of us—the President of the University of Iowa, and the editor of Southern Medicine & Surgery.

Deplorable it is that with the ninety-and-nine the one criterion of worth is price. In the daily prints we see a residence, a mercantile establishment, a factory, a boat, a hotel, a hospital, even a House of God—Heaven save the mark—denominated solely as a so-many thousand or million dollar "concern," or "outfit." Not apparently, but evidently, the dollar evaluation is our sole criterion. A great man remarked, long ago, "O, judgment, thou art fled to brutish beasts, and men have lost their reasons." Or never had them.

Shall the insistence of specialists not dry behind the ears force the foolish (the vast majority) to pay their high fees and spend all sick periods in hospital beds—to demand the services of one or several high-priced specialists and a hospital bed in the average case?

If so, the specialists—wet-eared and dry-eared—would do well to ponder the fact that a pyramid can stand only if its base be far-and-away broader than its apex—and that the base of this pyramid is the family doctor, or general practitioner.

When specialists disparage, or fail to speak up strongly for general practitioners, they are cutting the throats and digging the graves of themselves, if they happen to be young, of their immediate and remote successors if they happen to be not so young.

When the family doctor sits at the head of the

table; when a family doctor is (as suggested by a president of the Tri-State Medical Association of the Carolinas and Virginia) the dean of every medical school in the United States; when specialists discharge their real function of helping out with the rare and extraordinarily difficult cases, these referred to them by general practioners—then, and then only, will patients get their money's worth; then and then only will there be any assurance that medicine as we have known it can survive.

HEAT SICKNESS

THE BASIS of the article¹ is an experience of 271 cases consecutively seen since the spring of 1940.

The diagnosis of heat sickness, the authors are convinced, ought not ever to be considered easy; many cases present as difficult diagnostic problems as the industrial physician is asked to solve.

Surprisingly, it has been found that the more rapid the sweating the more salt per volume of sweat. At hard work a man could excrete liters of sweat in an 8-hour period, could lose as much as 40 grams of sodium chloride.

Heat cramps are of sudden onset—severely-painful, intermittent cramps of any of the muscles of the trunk, more frequently of extremities, one-half to several minutes. Voluntary motion or mild surface-stimulation excites the affected muscles to further spasm. Visceral cramps may occur with cramps in skeletal muscles, but occurring alone are not characteristic of the condition. Vomiting is frequent in the severe case.

Heat exhaustion usually is slow in onset, but may develop rapidly. The clinical picture is one of extreme weakness and a sense of impending collapse, profuse sweating, cool skin, rapid respiration, normal or slightly lowered t. and b. p. Blood studies show no significant changes.

The most common symptoms of heat fever are headache, vertigo, tinnitus, and frequency of urination; the essential sign of the condition is fever. Advanced cases usually are without cramps. Usual signs are a flushed face, hot wet skin, labored breathing, accelerated pulse rate, normal or slightly elevated blood pressure, and fever of 1 to 4° F. There may be sudden maniacal actions, collapse and stupor in a very severe case, with dry and hot skin, t. 103-110, fibrillary contractions, petechiae of the skin. No significant changes in blood chemistry have been observed.

It is the common experience for all of us to feel the need of more rest during spells of hot weather.

Certain points of history need to be stressed in arriving at a diagnosis of heat sickness. Exposure to a hot and/or humid environment; lack of ade-

1. E. H. Carleton & A. G. Kammer, East Chicago, Ind., in Rocky Mountain Med. H., June.

quate rest while away from work; a diet low in protein, vitamins and salt; and previous attacks of heat sickness in one of its forms—all these are factors.

Heat sickness is seen in one of three forms: cramps, exhaustion or pyrexia, each condition supposedly presenting a clear-cut syndrome. In many instances heat sickness can be so classified, but the majority of heat cases have presented a picture far from uniform. The attempt to divide heat sickness into syndromes and sub-syndromes is confusing and unnecessary.

General measures which benefit all cases are bed-rest in a cool room, sponging of the body surface with tepid water, and 500 to 1,000 c.c. chilled normal saline by mouth. Heat cramps subside only when plasma sodium chloride has been restored. If the victim is vomiting resort must be made to saline administered intravenously. Complete comfort is usually restored before a litre has been injected. Some success has been had with enteric-coated tablets of sodium chloride, 0.5 gm. The measure is worth trying when a patient cannot retain solution by mouth and when equipment for intravenous administration of fluid is not available.

Severe exhaustion requires to be treated for shock. Some recommend the use of glucose intravenously. Inhalation of oxygen and carbon dioxide has been suggested to relieve the anoxemia. Rest and saline by mouth are usually sufficient.

It is inadvisable to force an early drop of body t. by heroic measures. Initial t. of 102 requires hospitalization, is reduced by spraying the body with luke-warm or cool water and providing air currents. Icewater hinders cooling by constricting surface capillaries. The cooling process is to be discontinued at 101. Prolonged bed rest is indicated in severe cases.

Persons exposed to high t. should take sufficient salt in their diets and at regular intervals between meals—0.3 to 4 grams per hour depending on the severity of exposure. Cleanliness of self and clothing, adequate rest between periods of exposure, and diets high in vitamin and protein and carbohydrate content are to be assured.

From providing drinking water containing sodium chloride 0.1 per cent, results have been good.

Heat sickness still occurs usually among men who have just returned from a few days' layoff from work, which suggests the need of a more concentrated salt intake for the first few days of a hot spell and for men returning to work after a layoff.

The useful information given on this important subject will be velocemed by all readers any one of whom may have a patient requiring application of the browledge any day. Indeed, it would be

well for all of us to broadcast most of this information for its prophylactic value for bipeds and quadrupeds.

ERTRON EFFECTIVE FOR ARTHRITIS (R. G. Snyder et al, in Industrial Med., May)

After using Ertron for six years in a large Arthritis Clinic, the authors conclude:

In a certain proportion of severe cases of arthritis, which previously resisted the commonly used forms of treatment over a period of two or more years, the use of Ertron brought about a remission of symptoms. The earliest response was the patient looked better, felt better and his appetite was improved. Later, the swelling of the soft tissues was diminished or disappeared, there was increased range of motion and more normal functional activity with much less or no pain.

The improvement in these cases came about gradually. Although some patients showed evidence of improvement in one month, in most cases it required from two to three months of the maximum doses of medication tolerated by that individual before the first evidence of improvement occurred.

The improvement was sustained in the majority of cases, but in some patients who returned too early to their former occupations, it was necessary from time to time to renew medication in moderate doses to keep them free from symptoms. In a few cases it was found necessary to keep the patient on small maintenance doses.

As a result of this investigation on the use of Ertron over a period of six years, we are convinced that Ertron is safe. We have never seen any evidence of serious toxicity as a result of the use of this form of treatment.

THE TREATMENT OF IMPETIGO CONTAGIOSA WITH SULFADIAZINE-PLASTIC PREPARATIONS AND THE EXCLUSION OF DRESSINGS

(M. Pijoan et al., Albuquerque, in Southwestern Md., May)

The scabs were softened and loosen when cotton soaked in hydrogen peroxide was allowed to remain on for a few minutes. As much of the scab is removed as can be done without trauma. While the surface is still moist, the tincture of sulfadiazine-methocel (Solution I) is applied by the use of a cotton applicator, repeated until the entire lesion or area is thoroughly impregnated. After this has been done solution II is applied to the entire area. The coating should be ½ mm. in thickness and will dry within 3-5 minutes. Usually one treatment of the type described is satisfactory.

Solution I

Twenty square inches of sulfadiazine-methocel film (Lederle) containing 10 mgm, of sulfadiazine per square inch (and containing triethanolamine and sorbitol) are paritally dissolved and emulsified in 100 c.c. of 50% acetone (water dilution).

Sulfadiazine-methocel jelly (Lederle).

Wounds of the face, particularly those involving compound fractures of the nose, cheek or frontal sinus, respond extremely well to the local use of sulfathiazole powder. Such wounds should be carefully cleansed and dried and then dusted thoroughly and deeply with the powder, after hemostasis and before any attempt at suture is made. Fractures of the jaw and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and tooth sockets in which much of the invited and the powder.

NEWS

STATE HOSPITAL BOARD APPOINTED

Governor J. M. Broughton has announced the appointment of the fifteen members of the unified North Carolina State Hospital Board. To this number is added Dr. Carl V. Reynolds, State Health Commissioner, the only ex-officio member. Those appointed to the Board are:

One year term—C. W. Spruill, Windsor; Dr. Charles Poindexter, Greensboro; Harry Riddle, Morganton.

Two-year term—Mrs. Rivers Johnson, Warsaw; Dr. Roscoe McMillan, Red Springs; J. H. Beall, Lenoir.

Three-year term—W. A. Dees, Goldsboro; Mrs. W. R. Stanford, Durham; Dr. Wingate Johnson, Winston-Salem. Four-year term—Leonard E. Oettinger, Kinston; Dr. J. Dwight Barbour, Clayton; Mrs. Andrew Blair, Charlotte.

Five-year term—W. G. Clark, Tarboro; N. E. Edgerton, Raleigh; Dr. R. H. Crawford, Rutherfordton.

The State Hospital Board will exercise control over the State Hospital at Morganton, the State Hospital at Raleigh, the State Hospital at Goldsboro and the Caswell Training School at Kinston.

NINTH ANNUAL MEETING MISSISSIPPI VALLEY MEDICAL SOCIETY

QUINCY, ILL., SEPT. 29-30

More than 20 leading clinician-teachers will participate in this "The Mid-West's Greatest Intensive Post-Graduate Assembly for General Practitioners." The first day's program will be All-Chicago, with a complimentary stag buffet supper. There will be a big exhibit and the fellowship hour and banquet that has always been a feature. Speakers include Brigadier General Fred W. Rankin; Dr. Geo. W. Post, President of the Illinois Medical Society; Dr. A. W. McAlester, Jr., President of the Missouri Medical Association; Dr. Warren H. Cole, Head of the Department of Surgery, Illinois; Dr. Robert W. Keeton, Head of the Department of Medicine, Illinois; Dr. Paul B. Magnuson, Head of the Department of Bone and Joint Surgery, Northwestern; Dr. John de J. Pemberton and Dr. Samuel F. Haines, Minnesota; Dr. Leroy H. Sloan, Professor of Medicine, Illinois; Dr. Willis M. Fowler, Associate Professor of Medicine, Iowa; Dr. Archibald L. Hoyne, Professor of Pediatrics, Chicago and Illinois; Dr. Raymond W. Mc-Nealy, Associate Professor of Surgery, Northwestern; Dr. George J. Rukstinat, Associate Professor of Pathology, Illinois; Captain H. L. Dollard, M. C., U. S. Navy, Senior Medical Officer at Great Lakes; Dr. Charles H. Phifer, Professor of Surgery, Illinois; and Dr. M. M. Cook and Dr. Julius Jensen of Washington University, etc.

The entire program will be practical and will be keyed to war-time medicine. All ethical physicians are invited to attend, medical officers of the Army and Navy to be guests of the society if they register in service uniform.

A detailed program of the meeting may be obtained from the Secretary

HAROLD SWANBERG, M.D., 209-224 W. C. U. Building, Quincy, Illinois.

THE PIEDMONT GRADUATE ASSEMBLY will be held Sept. 21st. at Anderson, S. C. Program: Post-War Psychiatry, Dr. William Allen, Milledgeville, Ga.; Tuberculosis, Dr. P. P. McCain, Sanatorium, N. C.; Use of Penicillin in Wounds, Dr. Champ Lyon, New York. All doctors of medicine in good standing welcome.

ARMY ACQUIRES PILGRIM STATE HOSPITAL

The press carries the announcement that the War Department will acquire for use as an Army General Hos-

pital the great institution at Brentwood on Long Island, known as Pilgrim State Hospital. This great hospital has all been built since World War I, and it must be one of the largest hospitals in the world. Two years ago there was a daily patient population of more than ten thousand, and at that time another building was going up. The press announces that a billion dollars will be spent by the United States Government in making the necessary modifications of the buildings. The press announcement makes no reference to the disposition to be made of the mentally sick patients now in the hospital—more than in any other hospital in this country and probably in the world.

BUST OF DR. McLEOD PRESENTED

In an impressive ceremony, a bust of Dr. F. H. McLeod was unveiled at the McLeod Infirmary, Florence, on June 19th. The bust was a gift to the institution from Dr. James McLeod. Mr. Ben Covington, Chairman of the Board of Trustees of the McLeod Infirmary and lifelong friend of Dr. McLeod, paid a glowing tribute.

DR. CHARLES W. ARMSTRONG, Health Officer of Rowan County, N. C., member of the Salisbury Kiwanis Club, who was recently elected a trustee of Kiwanis International was honored at the regular meeting of the club. Tributes were paid him by the local club, representatives of the Carolinas' district and members of his family, on July 24th.

Dr. John deSaussure Gilland announces the opening of offices for the practice of General Surgery in the Medical Arts Building, 121 West Seventh Street, Charlotte, N.C.

MARRIED

Dr. Frank Buist Woodruff, of Woodruff, and Miss Martha Thelma Courtney, of Aiken, South Carolina, were married on June 25th.

Miss Jeanette Valentine, daughter of Mr. and Mrs. David Valentine, of Cole, N. C., became the bride of Dr. Frederick Kroncke, of Milwaukee, Wis., June 4th at the Church of the Transfiguration in New York.

Mrs. Kroncke is a graduate of Chowan College and the School of Nursing at the Medical College of Virginia.

Dr. Kroncke is a graduate of the University of Wisconsin, where he received his M.D. degree. He served his internship at the Medical College of Virginia and is now on the staff of the Roanoke Rapids Hospital.

Miss Sarah Emma Hutcherson, daughter of Mrs. William J. Hutcherson, of Reidsville, N. C., and Dr. Alexander Spotswood Robins, son of Dr. and Mrs. Charles R. Robins, of Richmond, on July 28th, at the Main Street Methodist Church, Reidsville.

The marriage of Miss Mildred Catherine Carson and Dr. Joseph French Alsop took place July 6th, at the Hixburg, Va., Presbyterian Church.

Dr. Alsop is on the staff of Henry Ford Hospital in Detroit. He is a graduate of Johns Hopkins Medical School and is a lieutenant (jg.) in the Naval Reserve.

The bride, a native of Appomattox County, attended Lynchburg College, and has made her home in Lynchburg several seasons.

Dr. Gabe Aubrey Payne, Jr., of Rochester, New York, and Miss Rosa Maybelle Paxton, of Clifton Forge, Virginia, were married on July 10th.



Foresight in Surgery

Prostigmin Methylsulfate 'Roche' maintains intestinal and bladder tone, minimizing the incidence of abdominal distention and urinary retention following surgery. Surgeons who have the foresight to administer Prostigmin preoperatively usually prevent 'gas pains' and avoid the necessity for catheterization during the postoperative period. Prostigmin is used by many leading surgeons as a prophylactic routine measure and is regarded as a valuable aid in affording a smoother convalescence to patients whose recovery otherwise might be retarded by postoperative complications due to intestinal or bladder atony . . . HOFFMANN-LA ROCHE, INC., ROCHE PARK, NUTLEY, NEW JERSEY

 Supplied in two strengths: 1:4000 solution for prevention or prophylaxis; 1:2000 solution for treatment.

PROSTIGMIN 'Roche'

Miss Claudine Price Burkholder, of Richmond, and Dr. Edwin Burwell Jones Whitmore, Jr., of Petersburg, were married on July 31st. Dr. Whitmore is a member of the staff of the Petersburg State Colony.

DIED

Dr. Lewellys Franklin Barker, 76, internationally known internist, and authority on eugenics, geriatrics, heredity and neurology, and Professor Emeritus of Medicine at the Johns Hopkins University, died July 13th after being in ill health for a year.

Dr. Barker gained fame for his work assisting in stamping out bubonic plague in the Philippines in 1899 and in San Francisco in 1901. He had been completely inactive the last six weeks.

Dr. Barker had contributed more than had any other doctor to the meetings of the Tri-State Medical Association of the Carolinas and Virginia and had for many years been an Honorary Fellow of the Association. Dr. John Peter Munroe was wont to comment "Barker always tells you something to do for a patient."

Dr. Rawley Harrison Fuller, 66, physician and surgeon and owner and operator of the South Boston Hospital, died July 24th as the result of a stroke suffered the previous afternoon. Dr. Fuller, a native of Pittsylvania County, was educated at Danville Military Institute and the Medical College of Virginia.

He was a member of the American Medical Association, Southern Medical Society, Tri-State Medical Association, Piedmont Medical Society and the Halifax County Medical Association. He was also an active member of the South Boston Lions Club and Masonic Lodge. No. 91.

In 1907 he opened the Little Retreat Hospital, at Clover, and in 1927 began operation of the South Boston Hospital, giving South Boston its second modern hospital unit.

Dr. Charlton Edwin Gamble, of Turbeville, South Carolina, died in Tuomey Hospital at Sumter, on July 10th. Dr. Gamble was born in 1881; he was a graduate in the class of 1907 of the Medical College of the State of South Carolina, Charleston.

Dr. Herbert Taylor Aydelett, 75, a retired physician of Greensboro, N. C., died at the home of a son at Norfolk, Va., July 21st. Dr. Aydelett was a native of Elizabeth City, and a graduate of Wake Forest College and the University of Virginia.

Dr. Allen Ross Diefendorf died at New Haven on July 30th, at the age of seventy-two. He had devoted his life to psychiatry and his textbook, Clinical Psychiatry, was popular for many years. Dr. Diefendorf was a member of the faculty of the School of Medicine of Yale University for many years.

Dr. Thomas R. W. Wilson, for the past 26 years pathologist to the Greenville (S. C.) General Hospital, died at the hospital May 3rd. Dr. Wilson was born February 24th, 1875, at Spencerville, Md., but spent most of his early life in Baltimore.

He was graduated from the Baltimore City College and from the Baltimore Medical College, later doing post-graduate work at Johns Hopkins, later returning to the Baltimore Medical College, where he taught pathology.

Dr. McCord Wright Ball, 75, retired, New Bern, N. C., July 6th in Duke Hospital, Durham. He had suffered from angina pectoris for 12 years.

MEDICAL COLLEGE OF VIRGINIA

The alumni of the college in Puerto Rico recently presented a \$500 War Bond as a gift to their alma mater in appreciation of the service of the institution to them.

A grant of \$5000 has been made by the W. K. Kellogg Foundation for loans to students in the School of Denistry. This is the second grant made by the foundation for such loans.

Mr. J. P. Finnegan joined the faculty of the college on July 1st as Research Assistant in Pharmacology, coming to us from the University of California Department of Pharmacology.

Dr. Miriam Madison on July 1st replaced Dr. L. D. Abbott, Assistant Professor of Biochemistry, who has enlisted in the Navy. Dr. Clarke is a graduate of Yale University in physical chemistry. She will act as Research Associate in Biochemistry. She has had excellent teaching and research experience.

Mr. Geoffrey Jefferson, Manchester, England, Chief Consultant in Neurosurgery for the British government, was the recent guest of Dr. C. C. Coleman, Professor of Neurological Surgery. Mr. Jefferson was making a tour of the main neurosurgical clinics of the United States.

Dr. E. I. Evans, Assistant Professor of Surgery, attended the meeting of the Shock Committee of the National Research Council in New Haven, Connecticut, July 11th and 12th, reporting on the research work in shock being done at the college.

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA

At the College's first March graduation of medical students and nurses under its accelerated program on the 19th of that month ninety graduates received diplomas in the two schools. George D. Grice, Acting President of the College of Charleston, delivered the Annual Address. Dr. F. Macnaughton Ball was the winner of the Ravenel Award for the best thesis on a public health subject. (Published in the May issue of the Journal of the South Carolina Medical Association.)

Between March 26th and 29th fifty students reported to the College to enroll in a new class in medicine. On July 1st a new group of students entered the nursing school.

On Wednesday, June 2nd, the Annual Meeting of the Board of Trustees was held to receive the Faculty's recommendation of the candidates for the degree of Bachelor of Science in Pharmacy. All five were approved.

By action of the Faculty at its annual meeting June 2nd, Dr. Paul W. Sanders, Associate in Urology, was advanced to the rank of Assistant Professor; Dr. Robert M. Hope, Associate in Ophthalmology, Rhinology and Otolaryngology, was advanced to Assistant Professor; Dr. J. M. Sette was advanced to the position of Associate in Obstetrics and Gynecology, Mr. J. A. Richardson to that of Instructor in Physiology and Pharmacology, Dr. Morris Belkin to that of Associate in Pharmacology, Dr. Morris Belkin to that of Associate in Pediatrics; Dr. D. L. Maguire, Jr., was appointed Teaching Fellow in Surgery, and Mr. J. B. Sanford Technical Assistant in Bacteriology.

Between June 12th and July 1st a recess was granted to the medical students before the Army and Navy students were called to active duty. When the students returned from Fort Jackson at Columbia on July 9th they were in the uniform of the Army; the Navy group will be uniformed in two or three weeks.



Dr. Daniel W. Ellis, Associate in the Department of Clinical Pathology, is being sent to the Army Medical School in Washington, July 3rd through August 28th, for a course in Tropical Medicine.

The Second Annual Refresher Course sponsored by the Alumni Asssociation is planned for November 3rd and 4th. Speakers who have accepted places on the program are: Dr. Leroy Gardner, Director Trudeau Foundation of the Saranac Laboratory for the study of Tuberculosis, Saranac New York; Dr. Alfred Blalock, Professor of Surgery, Johns Hopkins University; Dr. Roy Kracke, Professor and Chairman of the Department of Bacteriology, Pathology and Laboratory Diagnosis, Emory University; Dr. Charles Christian Wolfert, Professor of Clinical Medicine, University of Pennsylvania; Dr. Virgil P. W. Sydenstricker, Professor of Medicine, University of Georgia; Colonel John Theodore King, Chief of the Medical Clinic, Walter Reed Hospital; Dr. Harrison F. Flippin, Department of Medicine, University of Pennsylvania; Dr. George W. Thorn, Hersey Professor of the Theory and Practice of Physic, Harvard University.

Founder's Day speaker at banquet, evening of November 4th: Dr. Henry Meleney, Chairman of Committee on Teaching of Tropical Medicine of the Association of American Medical Colleges, New York University.

Each speaker will give a morning clinic or lecture and conduct a round table discussion in the afternoon.

A Pathological Conference will be held each afternoon.

Pertussis.—Incidence is highest in age group 3 to 7 yrs. Nearly half the deaths are in infants of less than 12 mos.

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In key industrial and military medical establishments, Domeboro Tabs are preferred for wet dressings. They are recommended by the National Research Council and included in the military Manual of Dermatology.

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BOOKS

HISTORY OF SURGERY, by RICHARD A. LEONARDO, M.D., Ch.M., F.I.C.S., Member American Association of the History of Medicine, Fellow Royal Society of Medicine (London), Formerly President American Medical Association of Budapest (Hungary); Fellow American Medical Association; Fellow International College of Surgeons. Froben Press, 4 St. Luke's Place, New York, 14, 1943. \$7.50.

The author has studied records well and has traveled widely, and both these procedures are well evidenced in his book. He begins with Primitive Surgery and traces the Art through Babylonian, Egyptian, Hebrew, Hindu, Chinese, Japanese, Greek, Alexandrian, Roman, Byzantine, Arabian, Mediaeval, Renaissance and 17th Century periods.

Then he treats of Surgical Obstetrics, The Barber-Surgeons, Surgery of the 18th and 19th Centuries, American Surgery, the Listerian Revolution, Anesthesia, and then Recent Surgery in various countries of the World.

The author's descriptive powers are so good as to prevent the narration from becoming tedious. The relative prominence given to different surgeons now living or only recently dead cannot fail to disagree with the judgments of many. A great number will be disappointed not to see the names of American and other surgeons whom they regard as having better claim to mention than are some others given prominent place. However, this was inevitable, and, on the whole, it may be said that Dr. Leonardo has given us a pleasantly readable and valuable History of Surgery up to the present.

The 100 instructive plates are concerned with themes ranging in time from the prehistoric to the late 19th century.

ROENTGENOGRAPHIC TECHNIQUE, A Manual for Physicians, Students and Technicians, by Darmon Arrelle Rhinehart, A.M., M.D., F.A.C.R., Professor of Roentgenology and Applied Anatomy, School of Medicine, University of Arkansas; Roentgenologist to St. Vincent's Infirmary, Missouri Pacific Hospital, and the Arkansas Children's Hospital, Little Rock, Arkansas. Third edition, thoroughly revised, published 1943. Octavo, 471 pages, illustrated with 2011 engravings. Cloth, \$5.50, net. Lea & Febiger, Washington Square, Philadelphia 6, Pa.

The author has revised the text thoroughly and included advances made in the field. Much new material and thirty-one new figures have been added. This edition is considerably larger but the price remains the same.

The excellent plan of the first two editions is followed in the third. Emphasis has been placed on the method of developing a technique by experimental exposures and by charting the results of diagnostic exposures. This work presents a standard procedure which is thoroughly practical, successful and modern. The positioning and the spe-

cial procedures to be applied to each part of the body are clearly presented completely, fundamentally, logically and simply.

Contents

Electricity and Electric Currents Roentgen-ray Machines

Roentgen-rays or X-rays

Dark-room Equipment and Technique

Introductory Experiments

A Basic Roentgenographic Technique Advanced Experiments

Roentgenograms

Combinations of Exposure Factors

Roentgenographic Technique with the Unit

Type Roentgen-ray Machines Miscellaneous Instructions

The Upper Extremity

The Lower Extremity

The Vertebral Column, Thorax and Pelvis

The Head

The Teeth

The Thoracic Viscera

The Abdomen and the Gastrointestinal Tract

The Urinary Tract

Miscellaneous Examinations.

ALLERGY, by ERICH URBACH, M.D., Chief of Allergy Service, Jewish Hospital, Philadelphia; Associate in Dermatology, University of Pennsylvania School of Medicine; Member of Board of Regents, American College of Allergists; with the collaboration of PHILIP M. GOTTLEB, M.D., Associate on Allergy Service, Jewish Hospital, Philadelphia; Instructor in Medicine, University of Pennsylvania School of Medicine; Fellow of American College of Allergists. Grune & Stratton, Inc., 443 Fourth Avenue, New York, 1943. \$12.00.

The great increase in the attention paid allergic conditions in recent years is of much concern in every field of medicine. The need of reckoning with allergy as a factor in a wide diversity of disease conditions makes it obligatory on every physician to be familiar with the basic laws of allergy and their practical application.

Part One gives a Historical Survey and deals with Basic Principles, Incidence, Experimental Basis, Pathology, Chemistry, Allergens, Antibodies, Diagnosis and Principles of Treatment; Part Two with Inhalants, Ingestants, Injectants, Contactants, Physical Agents, Infectants and Parasitic Agents; Part Three with Symptoms and Therapy, Anaphylactic Shock, Allergic Diseases of (1) the Upper Respiratory Tract, (2) the Lower Respiratory Tract, (3) the Gastro-intestinal Tract, (4) the Liver and Gallbladder, (5) Allergic Skin Diseases, Allergic Diseases of (6) the Nervous System, (7) of the Eyes, (8) of the Ear, (9) the Cardiovascular System, (10) the Hematopoietic System, (11) the Joints, (12) Urinary Tract, (13) Allergic Manifestations Due to Functional and Pathologic Changes of the Female Genitals, (14) Al-

lergy in New Born, (15) in Infancy, (16) in Childhood and (17) in the Aged.

One does not have to ascribe as large a place to Allergy in the causation of disease as is ascribed by the more enthusiastic of the specialists in this field to realize the very great prevalence and importance of this condition.

The book under review affords an admirable coverage of Allergy from every viewpoint. Its careful study by any active physician or surgeon will prove of inestimable value to patient and doctor and save many a patient, particularly children, from being operated on unnecessarily, even hurtfully.

DIAGNOSIS OF UTERINE CANCER BY THE VAGINAL SMEAR, by GEORGE N. PAPANICOLAOU, M.D., Ph.D., Department of Anatomy, Cornell University Medical College, and HERBERT F. TRAUT, M.D., Department of Obstetrics and Gynecology, Cornell University Medical College and the New York Hospital. The Commonwealth Fund, 41 East 57th Street, New York, 22, N. Y. 1943. \$5.00.

The number of lives cut off and the amount of disability caused by cancer of the uterus demands for this condition study by any and every means offering the least chance of reducing the mortality and morbidity.

This book describes "a new, simple and inexpensive" aid in the diagnosis of this terribly important condition; and the writers' reputations and connections are such as to entitle their claims to earnest and respectful consideration.

The profusion of plates, beautifully executed in a variety of colors, helps greatly in the presentation of the subject in a way to carry conviction.

MANUAL OF FRACTURES: Treatment by External Skeletal Fixation, by C. M. Shaar, M.D., F.A.C.S., Captain, Medical Corps, U. S. N., and Frank P. Kreuz, M.D., F.A.C.S., Lt.-Commander, Medical Corps, U. S. N. Illustrated. W. B. Saunders Company, W. Washington Square, Philadelphia and London. 1943.

The authors do not intend to give the impression that fractures should be treated in any one way to the exclusion of others, but to teach the treatment of fractures in cases in which other methods are not practicable.

There are sections on External Skeletal Fixation—General Considerations; The Stader Splint;



Delayed Union and Nonunion; Special Fractures; Complications in Fractures; Arthrodesis of Joints; Bone Grafts; Incidence of Fractures in the Service; Anesthesia; X-Ray Study.

Experiences of the past two years constitute the foundation for this excellent treatise.

THE BOY SEX OFFENDER AND HIS LATER CAREER, by Lewis J. Doshay, M.D., Ph.D., Psychiatrist, Children's Courts, New York City; Foreword by George W. Henry, M.D., Associate Professor of Clinical Psychiatrist, Cepartment of Correction. New York City. Grune & Stratton, Inc., 443 Fourth Ave., New York City. 1943. \$3.50.

The study "seeks to establish the significance of early sex offenses among males in relation to later life behavior." Two-hundred-and-fifty-six sex offenders were studied in the juvenile court clinics of New York over a period of six years.

Included in the study were home factors, personalities of parents, community factors, inherent traits, disorders of body and mind, temperament and behavior, types of offenses.

Part III deals with the outcomes which are on the whole greatly encouraging.

Part IV sets forth the concusions, fifty pages of them. Court- and clinic-treatment has been highly successful preventing juvenile offenders from becoming adult offenders. Even very slightly better home influences showed far better ultimate results. No specific trait deviation was found to account for sex offenses, early or late.

It is concluded that male juvenile sex delinquency is self-curing provided the latent forces of shame and guilt are stimulated into action; that the later-life prospects for the primary offender are excellent as to sexual or general behavior; that the psychiatrist is needed for diagnosis and treatment and reorientation in the presence of the family.

The authors have developed and recorded information on an important subject about which little is known. Every physician and every judge—of juvenile or adult court—should know what is set forth in this book.

HANDBOOK OF TROPICAL MEDICINE, by ALFRED Stanford University School of Medicine, and J. C. GEIGER, Stanfard University School of Medicine, and J. C. GEIGER, M.D., Director of Public Health, San Francisco. Stanford University Press, Stanford University, Calif. 1943. \$1.50.

A considerable number of the disease conditions dealt with are encountered frequently in the U. S. A great many more may be expected after our troops come home from various tropical areas. Now is the time for doctors to renew and add to their knowledge of Tropical Medicine.

GERIATRIC MEDICINE: Diagnosis and Management of Disease in the Aging and in the Aged, edited by EDWARD J. STIEGLITZ, M.S., M.D., F.A.C.P., Consultant in

Gerontology, National Institute of Health; Visiting Physician, Medical Service, Baltimore City Hospitals; Attending Physician, Washington Home for Incurables, Washington. Illustrated. W. B. Saunders Company, W. Washington Square, Philadelphia and London. 1943.

A foreword by Dr. L. F. Barker (dead within the month) declares the time ripe for the appearance of a treatise on geriatric medicine "suited to the needs of the general medical practitioner on whom the vast majority of older persons must rely when they need medical aid." And this book, the work of himself and half-a-hundred like-minded physicians, answers the need for such a treatise Especially in rendering health care to the old should we be careful that we employ as much of our Art as of our Science. And such is the spirit of the book.

The book is written by internists, general surgeons, parasitologists, an obstetrician, a gynecologist, otolaryngologists, a proctologist, a life insurance company's medical director, neurologists, a physiologist, a pharmacologist, urologists, a hematologist, a physical therapist, psychologists, a pathologist, dermatologists, a chemotherapist, cardiologists, a parasitologist, and an ophthalmologist.

All the contributors are men of note and worth, and they have supplied us a book for our reliable guidance in the interest of our aged and aging patients.

DISEASES OF THE NOSE, THROAT AND EAR, Medical and Surgical, by WILLIAM LINCOLM BALLENGER, M.D., F.A.C.S., Late Professor and Head of the Department of Otology, Rhinology and Laryngology, School of Medicine, University of Illinois, Chicago, Illinois, and Howard Charles Ballenger, M.D., F.A.C.S., Associate Professor of Otolaryngology, Northwestern University School of Medicine, Chicago; Surgeon, Department of Otolaryngology, Evanston Hospital, Evanston, Illinois. Eighth edition, thoroughly revised, published, 1943. Octavo, 975 pages, illustrated with 604 engravings and 27 plates, 25 in color. Lea & Febiger, Washington Square, Philadelphia. Cloth, \$12.00 net.

For decades Ballenger has been to Otolaryngology what Fuchs a bit farther back was to Ophthalmology. The "medical and surgical" after the title is not redundant. It signifies that the authors realize that most books on this subject are mighty skimpy on medical treatment, that, indeed, many of them regard the specialty as so entirely surgical that whatever may be done in the diagnosis or treatment, even preventive, of any disease condition of nose, throat or ear, "that's surgery."

A book strongly recommended to otolaryngologists and general practitioners for their guidance in diagnosis and treatment for patients complaining of their noses, throats or ears.

COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION, edited by Richard M. Hewitt, B.A., M.A., M.D.; A. B. Nevling, M.D.; John R. Miner, B.A., Sc.D.; James R. Eckman, A.B.;

and M. KATHARINE SMITH, B.A. Volume XXXIV-1942. 999 pages with 176 illustrations. W. B. Saunders Company, Philadelphia and London. 1943, \$11.00.

The papers making up this volume, prepared from Dec. 1st, 1941, to Nov. 30th, 1942, cover so wide a range of medicine and surgery, and cover it so well, as to make it needful that every practitioner—be he family doctor, or specialist—have a copy for daily consultation.

BRUCELLOSIS IN MAN AND ANIMALS, by FOREST HUDDLESON, D.V.M., M.S., Ph.D., Research Professor in Bacteriology, Michigan State College. Contributing Authors: A. V. Hardy, M.S., M.D., Dr.P.H., Associate Professor of Epidemiology, DeLamar Institute of Public Health, Columbia University Medical School, Consultant, U. S. Public Health Service; J. E. Debono, M.D., M.R.C.P., Professor of Pharmacology and Therapeutics, Royal University of Malta; and WARD GILTNER, D.V.M., M.S., Dr.P.H., Dean of Veterinary Division and Professor of Bacteriology, Michigan State College. Revised Edition. The Commonwealth Fund, 41 East 57th Street, New York City. 1943.

That there are a good many cases of brucellosis in this country and that a fair number of persons are debilitated by the disease are generally agreed. But that is about as far as the agreement goes. A good many believe that every doctor in general practice sees the condition almost daily, and generally fails to recognize it. Many more scoff at the idea of the disease being prevalent and say the

"mild cases," as diagnosed by the enthusiasts, are not brucellosis at all.

Here is the record, probably somewhat colored on the side of the pros.

ON THE TREATMENT OF CORNS ON THE SOLE OF THE FOOT

(Holmes Coote, Esq., F.R.C.S., London, Abstracted in Charleston Med. Jl., 1860)

Corns consist of thickened epithelium of cuticle, and that a small bursa is sometimes found between them and the subjacent parts. The remedy is simple, and consists in the person so affected wearing boots with a sole as wide as the sole of the foot, of ample length, square at the toes, and with the upper leather soft and moderately loose. But this advice is rarely followed, fashion exerting a more powerful influence than common sense.

SACCHARIN is a coal-tar product 500 times sweeter than sugar. It is not a food and its only value lies in its sweet taste. It has been used to sweeten the food of diabetics who may desire a sweet tasting food, and who cannot tolerate sugar. It is quite harmless. Some may say that they should forego taste gladly and stick to simple, plain, tasteless food. However, people have some indisputable rights and the satisfying of taste is one of these. There is an old Latin adage much quoted that says "de gustibus non disputandum est"—taste should not be disputed. It is a purely personal affair.—McGuigan, in Jl. Assn. Amer. Med. Col., May.

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CHUCKLES

A Kind and Encouraging Word for the Man Nobody Loves

Dr. Raymond Pearl, of Johns Hopkins, founder and, until his death, the editor of our Quarterly Review of Biology, has this to say for the pot-bellied:

Examination of 2,332 white men, revealed that the potbellied had, on the average, less pneumonia and cancer, and no more diabetics than the willowy and sylphlike. This does not apply, of course, to extremes. Among those examined the enormous tended to die early, as did the cadaverous; but a modestly aldermanic girth is quite consistent with long life.

"Oh, professor, I have enjoyed your talk; Scott is a great favorite of mine," a lady said.

"Indeed," said the professor. "Which one of his books do you like best?"

"Well, I haven't read any of his books, but I've used a lot of his Emulsion."

A lady as proud as old Lucifer Is tired of her husband's abucifer. She says she will see,

If she ever gets free, Love doesn't again make a gucifer. All work and no play makes "jack" . . . and lots of it.

"Pardon me, may I cut in?" asked the young surgeon as the operation began.

"Your wife used to be terribly nervous. Now she's as cool and composed as a cucumber. What cured her?"

"The doctor did. He told her that her kind of nervousness was the natural result of advancing age,"

The doctor's five-year-old answered the doorbell.

"Where is your daddy?"

"Oh, daddy is out on an O. B. case."

"Do you know what an O. B. case is?"
"Oh, that's where daddy goes out and stays all night."

"What did you have for breakfast?" asked the attendart, who had to determine if the prospective donor of blood would be acceptable.

"Ah, that's all jake. The Doc told me what not to eat, so I just had a cup of coffee and a piece of dry toast—no cream in the coffee and no butter on the bread—a beer and a couple of shots of good whiskey."

A middle-aged woman lost her balance and fell out of a window into a garbage can. Chinaman passing remarked: "Americans velly wasteful. That woman good for ten years yet."



PROCTOLOGY

THE SURGICAL ANATOMY AND DISOR-DERS OF THE PERIANAL SPACE

An unusually instructive and helpful article1 on the diagnosis and treatment of common anal and rectal disorders is abstracted.

The lower 1/2 in. of the anal canal is transitional skin. The skin of the anus is true skin with sebaceous and sweat glands and hairs. The skin of the anal canal appearing at the verge of the anus is evidence of early prolapse of the pile.

This lining is the sentinel that guards the rectum and it is sensitive to painful stimuli. Lesions of the perianal space provide most of the painful lesions in proctology. The mucous linings of the anal canal and rectum lying above are not sensitive to painful stimuli, and so lend themselves to painless, submucous sclerosing injections.

The normal skin lining is not sensitive to digital examination by the lubricated finger or instrument, providing there is no lesion of the perianal space. The patient draws away or holds himself tightly because the inserted finger causes the defaecation reflex and the patient becomes embarrassed. He should be assured that defaecation cannot occur.

Fissure-in-ano is a painful vertical abrasion of skin of the anal canal or of the skin of the anus, which may persist for months. The vertical slit may be but an eighth-inch in length and situated in the anal canal just below the mucocutaneous junction, where it is difficult to see on account of pain and spasm demanding a perianal anaesthetic injection for exposure. More commonly the ulcer extends downwards to the skin of the anus when it may be half-inch long and easily seen by gently separating the anal verge. It now has the tell-tale sentinel pile.

In some only the skin is broken and the radiating fibres of the sensitive corrugator cutis ani muscle are visible. In others the ulcer penetrates the corrugator, exposes the venous plexus, or even the circular fibres of the cutaneous sphincter ani externus. The perianal space has now been opened and subcutaneous abscess or fistula can occur.

It is the practice to treat uncomplicated fissure first with perianal injection of proctocain. If this does not give relief or if there are recurrences division of the subcutaneous external sphincter ani and enlargement of the skin wound is the radical cure. The patient willingly cooperates in measures which will prevent such pain.

The long time required for healing of the deep wounds following the extensive operation on anorectal fistulae tries the patience of both surgeon

and patient. The longest delay in healing is when there is no opening into the anal canal and no pathological reason to cut anal muscles. Healing of the deep wounds left after the present surgical treatment of ano-rectal fistulae is aided by deliberate cutting of the subcutaneous sphincter.

For pruritus ani, for fissure-in-ano, for haemorrhoidectomy injection of local anaesthetics into the perianal space has become a valuable procedure. It acts as a nerve block as well as a local anaesthetic. If the solution fills the perianal space it bathes the inferior haemorrhoidal nerves which cross the space from the outer wall. The injection needle can transverse the space on each side of the anus through a single anaesthetized skin puncture 1/2 in. behind the anus. If a watery solution of procaine precedes the anaesthetic in oil the total pain is slight. It is unwise to inject the oily solution superficially.

Infection after injection is a rare event, yet if the solution is confined to the perianal space and not injected into the ischiorectal space, infection, should it occur, could be easily dealt with surgi-

SPINAL ARTHRITIS AND SCIATICA

(A. S. Blundell Bankart, in Proc. Royal Soc. Med. (Lond.), May)

Spinal arthritis I believe is by far the commonest cause of sciatica. Severe osteoarthritis of the spine may occur without sciatica.

In many situations, notably in the shoulder-joint and sometimes in the knee, well-marked osteoarthritis occurs without gross x-ray changes. The same is true of the lateral joints of the spine, although in most cases some hint of it can be found in the x-ray pictures.

I have no doubt that the sciatica of spinal arthritis is due to neuritis.

For many years I have treated spinal arthritis and sciatica by manipulation followed by radiant heat, massage and exercises, in the belief that the same periarticular inflammatory reaction which causes the stiffness of the spine is also responsible for the sciatica. Sometimes I have given epidural or paravertebral injections as well, but I have not been impressed with their value. In persistent or recurrent cases I have not hesitated to remove the corresponding lateral intervertebral joints. This operation rarely, if ever, fails to cure the sciatica. Most cases respond to radiant heat, massage and exercises, with or without preliminary manipulation with the object of mobilizing the lumbar spine.

Doctor-"What's this extra ten dollars in your bill?" Plumber-"Oh that, doc. I had to call in a radiator specialist for consultation."

About to discharge a maternity patient, I told her she should take a wonderfully good tonic to build her up, saying that should permit her to come back next year for another baby. She answered in front of three laughing patients: "It'll have to be darned good stuff because my husband is overseas."-Canadian Doctor.

^{1.} E. T. C. Milligan, in Proc. Royal Soc. of Med. (Lond.),

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JAMES M. NORTHINGTON, M.D., Editor

VOL. CV

SEPTEMBER, 1943

No. 9

The Effect of Sulfa Drugs on the Excretion of Vitamin C

HARRY N. HOLMES, Ph.D., Oberlin, Ohio Past President American Chemical Society Severance Chemical Laboratory, Oberlin College

IN JULY, 1938, I received permission from P. C. Colegrove, M.D., to determine the amount of vitamin C in 24-hour urinary excretions of a patient, seriously ill with an alpha (?) streptococcus viridans infection, who was intermittently given large amounts of sulfanilamide. Kathryn Campbell, technician in our laboratory, did the analytical work.

To our great surprise the patient's excretion of vitamin C was found to be two or three times the normal amount (30-40 mg.), in spite of the known fact that infections lower the body level of vitamin C. Some days later, with the coöperation of the physician, the patient was given 200 mg. of vitamin C daily while the sulfa drug therapy was continued.

Whenever sulfanilamide treatment was resumed after interruptions of from one to nine days the excretion of vitamin C was greatly increased. During July 27th and 28th the patient was given 200 mg. vitamin C without producing a very large excretion of C. During this period no sulfa drug was given. Upon resumption of sulfa treatment (40 grains, then 80 grains daily), July 29th, the vitamin C excretion jumped to 116 mg., then to 181 mg. and remained very high until the patient's death on August 2nd. From July 27th to August 1st the daily dose of vitamin C was 200 mg.

This seems to be the first observation of the effect of sulfa drugs in causing a great increase in excretion of vitamin C. In the meantime Longenecker, Fricke and King¹ reported two sulfa drugs as "slightly active" in promoting urinary excretion of vitamin C in albino rats.

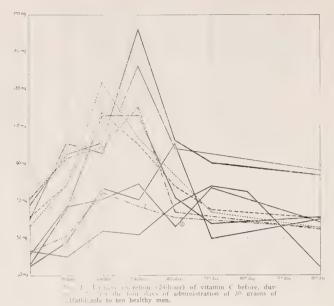
Under the medical control of A. C. Siddall, M.D., our 1943 experiments included the daily administration of 30 grains of sulfathiazole for four days to each of ten healthy volunteers, and the daily determination of their 24-hour urinary excretion of vitamin C. The analytical method used was the titration with dichlorophenol-indophenol, 2:6. Collection and preservation of urine proceeded as detailed by Holmes and Campbell.² The ten subjects ate at different college boarding houses and one or two added oranges to their diet.

Excretion during the 24-hour period immediately preceding administration of sulfathiazole ranged from 35 mg. to 72 mg. The values increased during the four days of medication to maxima of two or three times the initial amounts and then fell off more or less sharply.

It would seem that the body level of vitamin C must be lowered by such stimulated excretion and

3. Personal communication on work as yet unpublished,

H. E. Longenecker, H. H. Fricke and C. G. King. J. Biol. Chem., 135:497, 1940.
 H. N. Holmes and K. Campbell, J. Lab. Clin Med., 24:1293, 1930.



that the loss should be made good by increased daily intake of 100 mg., or much more, during prolonged administration of sulfa drugs. The loss due to infections must also be considered. It is now more or less common practice to give sodium bicarbonate with sulfa drugs because the general effects appear to be better. Probably part of this gain is the known checking by the sodium bicarbonate of abnormally large excretion losses of vitamin C.

Gustav J. Martin³ of the Warner Institute for Therapeutic Research recently found "that 2: methyl-1:4-naphthoquinone does not completely correct the prolonged prothrombin times produced by the inclusion of sulfaguanidine into purified diets, whereas a combination of the quinone and vitamin C does completely correct this condition. Furthermore, the growth rate and survival time of rats on the sulfaguanidine-containing diet was distinctly improved by the addition of vitamin C to these diets which were also deficient in biotin and folic acid."

ACUTE ABDOMINAL SYMPTOMS RESULTING FROM BLACK WIDOW SPIDER BITE

(Major W. Wilsen, in $J = I(e^{-1}) \times \dots \times J$, $J \in \mathcal{F}$, $A \neq \emptyset$, $A \neq \emptyset$)

The bite itself usually produces no more discomfort than a pinprick. A small red area is often seen at the site of the bite, but in many cases no local lesion is visible. In from $\frac{1}{2}$ to 2 hours the patient has severe cramping pains in the muscle groups nearest the location of the bite. Bites on the leg or genitalia cause cramps first in the thighs and hips, within a short time in the abdomen and extreme

rigidity of abdomen, which usually moves with respiration. At the onset of pain the patient usually has no fever, within a few hours a t. of 100 to 102. Nausea and vomiting occur in some cases. Leukocytosis is usual.

The great variety of remedies recommended speaks for their inefficiency in affording complete relief. Morphine, magnesium sulphate intramuscularly, calcium gluconate intravenously, and atropine sulphate hypodermically have all been used without affording complete relief for the pa-Lent. Frequent hot baths are a real help.

Latrodectus mactans antiserum gives spectacular results if given shortly after the bite.

PENICILLIN

(Herrell, Cook & Thompson, in Jl. A. M. A.)

Experimental evidence suggests that penicillin should prove effective in the treatment of clinical infections due to bacteria resistant to sulfonamides.

The complete lack of toxicity following the intravenous administration of pyrogen-free penicillin, the lack of any discomfort to the patient and the rather rapid disappearance of clinical symptoms have been observed in three cases of sulfonamide-resistant gonorrheal infections. Because of the limited amounts of penicillin available, penicillin therapy should be reserved and studied further in those cases in which the infection is resistant to the forms of treatment now being used. In all the cases reported, in addition to the clinical response noted, negative bacterial cultures were obtained sometime between 17 and 48 hours after the institution of penicillin therapy.

IMPETIGO CONTAGIOSA

(J. W. Bigger & G. A. Holgson, in Lancet, May 1st-

The writers' treatment of preference is mechanical clearing of crusts and liberal dusting of the affected parts with sulphanilamide powder, applied without a covering of paste.

A Consideration of the Factor of Change in the Animal Organism*

WM. DEB. MACNIDER, M.D., F.A.C.P., Chapel Hill, North Carolina

FIXITY of any order, even fixity of purpose, tends to bind and render inelastic the structure or the individual in which such a property develops. It is a quality which is inimicable to adaptation, and tissues or organisms without this quality of elasticity, of variability, have difficulty in meeting the exigencies of life which is made up of periods of adequate adaptation, never perfect, and periods of inadequate adaptation which may be of such a specialized nature as to produce the symptoms and later show the signs of disease.

Since 1907 the investigations in this laboratory have not been so much concerned with abnormal states as entities of disease as they have been interested in studying the changes associated with tissue degeneration and repair in a broad and, therefore, more helpful biological fashion. Certainly some of these changes may be looked upon as processes leading to adaptation, adaptation to advancing age and to maladjustments so marked that the departures from the normal have to be designated disease.

In thinking of the adjusted normal animal organism and the changes it can withstand one must conclude with a certain degree of assurance that the life span of such an individual was intended to be much longer than we now make it. I have said that "we now make it" for a purpose, for excluding physical accidents and accidents of an infectious order, the maintenance of life, its duration as well as its usefulness, are matters which we can in a large measure influence and in part determine. There are "factors of safety" within us with which we were endowed at birth that have been emphasized by Meltzer in his Harvey Society Lecture1 for 1906. In this lecture Meltzer discusses our superabundance of tissues, far in excess of any normal demand, which through their cellular nature are endowed with the power either to increase in size upon demand or to increase numerically and further to impart to the individual great structural reserve power. This element of excess structure is furthermore shown in the dual character of certain organs and in the great power which organs, paired or unpaired, possess to take over function in the face of disease and carry on in an uninterrupted

* Convocation Address, The American College of Physicians, St. Paul, Minnesota, April 22nd, 1942, published originally in Annals of Internal Medicine, Vol. 17, No. 6, December, 1942.

fashion the life of the individual as a whole. Such natural factors of safety have not been appreciated by us as reserves. Through excesses we have foolishly drawn upon them in their abundance for our normal way of life and depleted these factors of safety. Over-exercise, over-eating, over-worrying, more rarely over-drinking diminish these factors of endowed and natural safety, this abundant reserve tissue, and prepare us for the advent of tissues so different from the reserve that we designate them pathological. However, even tissues of this order may safeguard us against ourselves by furnishing us an excess of tissue which, although altered, not only functions and in part adjusts us, but at the same time endows us with a factor of resistance against further injury. The human animal organism, even with the benefit of a physician as a biological guide, romps lavishly through these normal and abnormal tissue factors for safety. This is not the case with the lower animals. They run the race for food and for sport, experience the sensation of fatigue, and permit this sensation to exercise its function in a demand for rest. The factors of safety in our abundance of tissues are severely drawn upon in order to adjust and adapt us to an artificial and exorbitant type of life which we regard as normal. The most difficult life, the most unusual and pathological one, is a "normal" one.

In addition to the factors of safety found in the superabundance of our tissues as a whole and in specialized organ structure, the animal organism, by attempting to cope with adverse conditions, has acquired certain ways of life of a functional order, automatic, and in a sense reflex in nature, which afford further protection and persist in attempting to adjust us both within and without. Cannon² designates these forces "The Wisdom of the Body." This order of bodily, automatic thoughtfulness is not concerned with changes of a structural nature, but is concerned with maintaining the varied functions of the body in a balanced and in an effective state through an interrelationship of tissue activities. These functions have to be so related to one another within the living organism that a balanced and adapted existence can be maintained by the individual in that external environment in which he has to live. Many of these changes from within which lead to at least transitory periods of adaptation to external conditions in the course of life are effected through the intervention of that part of our nervous organization, the autonomic or vegetative nervous system, over which we fortunately have no control. The balance of electrolytes in the body fluids, the maintenance of a state of chemical neutrality during life, the fixity of a constant body temperature, the assurance of an adequate oxygen supply for tissue usage, all constitute adjustments resulting from change which favor a balanced existence. These and many other balanced functional states, favorable for life and capable of withstanding strain, are maintained in spite of our willfulness to the contrary. With the factors for safety of a structural order with which the animal organism is endowed, and over and above this the capacity of the body automatically to balance and adapt us to our environment, it would appear difficult for changes of such an order to take place as to injure us permanently by the development within us of gross chemical and structural alterations. Even in those states of tissue change which are designated disease there is evidence that we may become readjusted to them at certain modified levels of physiological effectiveness. There is an inherent urge on the part of cells, not for death, but for life. The changes of degeneration which many such units can withstand and their capacity for recuperation and repair, if given an opportunity, constitute as a composite one of the major manifestations of life.

Some years ago, spurred on perhaps by the then actually non-existing state of prohibition, a period in which alcohol and aberrant alcohol beverages were consumed in large amounts, and at the insistence of certain life insurance companies, studies3 4 were undertaken in our laboratory to ascertain the effect of ethyl alcohol on the liver and to observe the changes during recuperation and repair if such developed in this tissue. Ethyl alcohol in 40 per cent strength was given once a day to dogs in a sufficient amount to induce a moderate degree of alcoholic intoxication. Such a procedure was continued for from six weeks to as many months. At periods during these intoxications tissue was obtained from the liver for histological study. Observation of the liver at such periods revealed large, pale organs from the abraded surface of which a blood-tinged serous fluid readily escaped. The microscopic studies of such tissues showed the presence of liver epithelial cells in an advanced state of edema, the fluid in such cells being held in lacunalike spaces separated by strands of cell cytoplasm. Fatty changes in such cells existed but were not marked. The dominant cell change was of such a physicochemical order that the ability of the cell cytoplasm to bind water was greatly increased, the cytoplasm increased in volume, and thereby augmented the volume of the liver as a whole. From these observations it was difficult to believe that such an organ, by changes of cell recuperation or cell regeneration, could return to a normal readjustment consisted in stopping the use of the chemical, in this instance alcohol, which had made the cellular structure of this organ undergo such a departure from its established normal. Here is an instance of a chemical substance modifying cell life in terms of its form in a very extensive and abnormal fashion, and yet this tissue is still able to return to a normal state of form and function. Such a recuperative change back to a normal type of cell is not associated with the development on the part of such cells of an acquired resistance to a subsequent injury by alcohol. The factor of safety which cells possess to repair themselves by processess of recuperation must be enormous and, furthermore, such changes must be constantly going on as tissues respond to injurious agents, recuperate and readjust themselves for normal function and thus for maintaining the life of the individual as a whole. Life necessitates cellular injury, and furthermore its successful continuance depends upon the ability of such injured units to recuperate rapidly by chemical change. This capacity for change is the main factor which determines longevity and which regulates tissue accidents that may express themselves in faulty organ adaptation. Chemical injury of a given order may be the stimulus for chemical action responsible for a continuation of cell life.

In addition to these experiments which have been presented, observations of a somewhat similar order have been made when the liver was injured by agents other than alcohol. For In these experiments the processes of repair may be of such a nature that not only is a survival of liver tissue effected, but the liver tissue after repair may be shown to have acquired a fixed cell resistance associated with the changes in cell form that develop during the repair process. The change in cell form is not the essential element in this type of tissue resistance. The essential factor in it must be a modification of the chemical structure of the cell which is responsible for the permanent or transitory state of cell resistance.

Many years ago Whipple and Sperry⁸ made the observation that if dogs were starved for 24 hours and then given chloroform by inhalation for one hour and a half, the livers of such animals invariably developed a severe injury in the form of a fairly complete necrosis of the central one-third to two-thirds of the liver lobules. Such a standardized reaction may be easily reproduced in experimental animals. There is another liver poison, uranium nitrate, which when given in an appropriate amount to animals of a susceptible age pe-

riod9 10 induces a diffuse type of injury to the liver which involves all of the epithelial tissue of the liver lobules. Not infrequently this type of injury to the epithelial tissue of the liver as well as that of the kidney is both so severe and so diffuse that the chemical and morphological changes of repair cannot be established. Such animals fail to survive. The order of change which uranium induces in the liver depends upon two factors, the age of the animal, and the dosage of this injurious agent. When these variables are properly adjusted either a slight or a severe structural injury may be established in the liver. Such injuries have certain quantitative functional expressions which are not very dependable, especially when they involve the use of some specific test for liver activity. The point of interest now under consideration, however, does not concern itself with quantitative functional expressions of injury. It does concern itself with what these slightly or severely injured cells do. what type of change they undergo during the process of repair. Responding to a slight or moderately severe injury, within eight days such epithelial cells effect a complete process of repair, either by recuperation or by cell division with no change in the structure of such cells. The liver returns to its established normal structure. The rapidity with which constructive changes of repair can be effected in this organ is remarkable, and this in turn constitutes one of its factors for safety. If now such an animal be starved for 24 hours and be given chloroform for one hour and a half, this change or repair of the liver structure back to the normal is found not to have imparted any fixed epithelial cell resistance to the liver. These cells which had changed during the process of repair from degenerated types back to a normal order of cell are susceptible to the toxic action of chloroform anw become injured, just as they would had the animal not been subjected to the epithelial injury by the use of uranium. If, however, the liver of an animal be more severely injured by uranium, and for this purpose older animals are selected, the outcome is different. In such animals the acute injury to the liver lobules is not only diffuse, but it is more severe than was the case with the former group of animals. In this latter group of animals which survive such a severe intoxication, the repair process is of a different type from that arising when a slight epithelial injury is induced. Such severely injured cells are incapable of establishing a state of repair through a process of recuperation without cell division. Furthermore. when changes within such cells have developed which permit and may also inaugurate cell division, the newly-formed cells which result from such division are of an abnormal order. In place of being highly specialized in internal structure and polyhedral in form, they are a flattened type of cell and the cell substance frequently fails to show differentiation into cell entities. This changed tissue which results from repair, after an injury is atypical and abnormal in nature for this organ and resembles in some of its characteristics embryonic tissue. It has a functional value though less than that of normal hepatic tissue. It forms bile, stores glycogen, and removes from blood plasma certain dves which may be used as an index of hepatic function. The observation of interest and significance in connection with this abnormal change in the liver resulting from a repair process is not the return of a satisfactory state of function, but the fact that such changed tissue has acquired a marked resistance to chemicals for which a normal type of cell in this location is highly susceptible. Such flattened, repair cells are resistant to chloroform, alcohol, carbon tetrachloride and uranium. Such an animal may now be starved, not for 24 hours. but for 48 hours, and given chloroform for two and one-half hours in place of one hour and a half without inducing injury or necrosis of the newlyformed, functional, atypical cells of repair. A repair process, indicated grossly by a change in form which it is assumed has been associated with a change in the chemical nature of the cell, has led to the development of an acquired resistance to certain chemical agents which are invariably toxic for a normal order of liver cell. This same factor of change continues to operate in these cells which have acquired a transitory resistance. There appears to be a fixity of purpose in cells which manifests itself by a tendency of cell types to reëstablish their normal form. The abnormal type of resistant cell which has been described is not fixed nor static in its configuration. After some months it has a tendency to, or actually does, change back to a normal order of highly specialized hepatic epithelium. When such a change in chemical constitution has developed, these cells which have reverted back to the normal have lost their acquired resistance. This normal type of tissue is susceptible to the now injurious, degenerative effect of chloroform, uranium, carbon tetrachloride and alcohol.11

During the years over which these studies on form and changes in form have extended, a large number of senile animals have come under our observation. In a certain percentage of these animals, associated with the development of the senile state, there has occurred a change in the form of epithelial cell which is found in the liver. In such animals the specialized, polyhedral type of cell has been replaced by a flattened, atypical type, identical with that form of cell which may be induced to appear in the liver as a repair process when this organ has been sufficiently injured by some chemi-

cal agent. This naturally acquired shift in cell type associated with senility shows the same order of resistance to chloroform, uranium, alcohol and carbon tetrachloride as is developed by severely injured cells during repair.

These changes in cell form as life adjusts and adapts itself to a variety of chemical experiences are impressive as they give to one a conception of the elasticity and adjustability of such changes ever tending to adapt an organ in which they occur and the organism, the individual as a whole, to life at some level of effectiveness. The observations lead one away from a concept of the fixity, the static nature and inelasticity of life processes, even when expressed as chemical equations within cells, as a form of life. It would appear that change is the essence of life and that an organ or organism, with the greater degree of adaptability to changed conditions is in turn the more likely to survive.

Finally and in summary, when we contemplate our varied factors for safety, for a continuation of life as an ever-changing, shifting, yet balanced living entity, we may wonder at the brief duration of our life span. The duality of certain organs and the superabundance of reserve tissue in those not so paired, the ability of tissues automatically to throw into operation functional defense mechanisms, degenerative changes in tissues leading to processes of repair which afford tissue resistance, all tend to hold us not only in life, but in a balanced and, in some measure, an effective life.

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REPORT OF AND LESSONS FROM A DEATH AFTER TONSILLECTOMY

(M. E. Cushnic, Philadelphia, & C. H. Knauer, Trenton, in Jl. Med. Soc. N. J., Aug.)

A colored boy, 5 years old, entered the Philadelphia General Hospital for T and A. At the age of 18 months he had been admitted to a hospital with t. of 103, enlarged lymph-nodes—posterior cervical, axillary and inguinal; discharged a week later with a diagnosis of nasopharyngitis and general lymphadenopathy, cause undetermined.

Upon last admission, May, 1942, child was well developed and well nourished, tonsils large and red and there was marked cervical adenopathy. Urinalysis negative, bleeding time 2 minutes, clotting time 3 minutes. T. 99, p. 90, r. 24.

Premedication: Phenobarbital gr. ss, atropine sul. gr. 1/150, at 8:15 a. m.

Anesthetic: Open drop ether began at 8:25, ended 9:00. Operation began at 9:05, finished at 9:20.

Very little ether was required for induction, and after operation was begun no ether was given. Patient's color was poor when he was taken to the operating room, but improved and the operation started. There was a minimum of bleeding. The patient left the operating room with shallow respirations. Plans were made to give oxygen before returning to the ward, but respirations ceased although the pulse could be felt for several seconds afterward. Oxygen and artificial respiration were administered; and later 1 ampule coramine ½ c.c. adrenal were given intravenously.

At autopsy:

Marked hyperplasia and congestion of the thymus; acute dilatation of heart; edema of the lungs; enlargement and congestion of the spleen; enlarged axillary, inguinal and cervical nodes with hyperplasia; hyperplasia of lymph follicles throughout the G. I. tract.

There were many danger signs along the way that should bave warned surgeon and anesthetist. The lymphadenopathy at 18 months deserved attention. The enlarged tonsils and adenoids may be a part of general hyperplasia of lymphoid tissue, and removal is not always necessary to the child's welfare.

This patient had 35 minutes of anesthesia before the operation began—a happening not uncommon when there are a large number of tonsillectomies to be done. Other warnings which should have been heeded were the dusky mucous membranes and the small amount of bleeding. A certain amount of moral courage is required to postpone an operation after the patient is anesthetized, but, unless the life of the patient depends upon the operation, this should be done if the patient shows signs of undue depression.

ATAXIA OF SUDDEN ONSET.—Look carefully over the whole body surface for ticks,

Air Conditioning of Operating Rooms and the Reduction in the Incidence of Wound Infection

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CONTAMINATION of clean operative wounds has never been a great problem with us. Nor was it a great problem in other hospitals with which we have been familiar. However, one preventable infection in any number of operations, no matter how great, is one too many, and should give concern.

For ten years or so, Deryl Hart, of Duke University, has been working on this problem with great industry and ingenuity. He has published his results from time to time in many journals. Three years ago he wrote¹ summarizing his methods of study and his conclusions as to the effectiveness of corrective measures he has instituted.

Cultures in 40 hospitals located over a wide area of the United States, he reports, showed that pathogenic bacteria were present in the air in all operating rooms, and that the most common organism to be found was the staphylococcus albus type. Staphylococcus aureus, hemolytic and non-hemolytic, was not at all unusual—as many as 50 colonies of this organism sedimenting on a Petri dish within an hour's exposure.

It was found that the air-conditioned operating rooms had a much lower air contamination than did the non-air-conditioned hospitals, this due to the filtering out of most of the non-pathogenic bacteria in the outside air and to the reduction in the number of pathogenic organisms given off by the occupants of the room as a result of the more efficient ventilation. In Duke Hospital the incoming air was found to be practically sterile, whereas cultures made above the roof at the air intake and cultures made in the washing chamber before this air was washed and filtered showed many bacteria. Utilizing this clean air in large quantities for ventilation, attempt was made to reduce the bacterial contamination in the operating room to a level below that of danger to the patient. The reduction could be brought about quite rapidly as long as there were no occupants of the room, but as soon as it was occupied by an operating team the contamination could not be brought down to a level believed safe for an open wound.

Many other measures were taken to try to reduce the air contamination. The number of visitors was reduced to a minimum; the walls were washed daily and painted frequently; the floor was mopped with an antiseptic between operations; masks were worn at all times whether or not operations were in progress; for large operative procedures double masks of eight thickness of butter gauze were worn; and large operative procedures were posted only as the first case in the morning after the room had been closed overnight. In the early morning hours the air was practically free of sedimenting bacteria; however, as soon as the nurses entered the room the air contamination rose rapidly. This same rise could not be obtained by the use of electric fans to stir up the dust on the floor.

Over a period of time the nose and throat of every patient was cultured before operation and every member of the operating-room personnel had his nose and throat cultured frequently. At one time as many as 80 per cent of the personnel and 80 per cent of the general population were found to have the staphylococcus aureus in the nose and/or throat so it seemed impracticable to eliminate every possible carrier; persistent carriers with a heavy contamination of their throats were not allowed to work in the operating room where large clean operations were performed. The average mask is not satisfactory for eliminating the contamination of the air from the nose and throat.

Over several years the air was tested daily for many months at a time. At times the organisms were cultured from the air before the wound showed evidence of infection and when this infection showed up the same organism was present. Severe infections in Hart's experience were found to be caused almost exclusively by the hemolytic staphylococcus aureus. When the air contamination with this organism was low he did not get wound infections, and when it became high, a number of infections with this organism occurred. The infection rate was 4 per cent in clean primary incisions after having taken all possible measures to reduce it.

Since all other measures for controlling the contamination were no more than partially satisfactory, ultraviolet radiation was turned to as a method of destroying the bacteria after the air had become contaminated. This proved to be highly satisfactory by every test made. Using an intensity of radiation 24 to 34 microwatts per sq. cm. at the operative site, and varying intensities throughout the other parts of the room, obtained

uniformly satisfactory results. Hemolytic staphylococcus aureus, on plates of blood agar, were killed with one to two minutes' exposure at the operative site, and when Petri dishes were exposed at distances as far as 10 ft. from the source of radiation they could be sterilized within 30 minutes.

There was an immediate cessation in serious infections. Before beginning the use of radiation there had been a number of deaths from wound infections in such cases as thoracoplasties, craniotomies, arthroplasties and radical mastectomies. No patient operated on under the ultraviolet radiation has died of a wound infection. The infection rate has been reduced from an average of 4 per cent in clean primary incisions of no great extent to considerably less than one per cent in the extensive operations when the radiation was used. In the latter group were all thoracoplasties, radical mastectomies, craniotomies, laminectomies and arthroplasties. Some of these more extensive operations in the series without radiation had had an infection rate considerably higher than the 4 per cent general average.

Some evidence was found that the organisms which are not killed may be attenuated by their exposure.

Hirshfeld made an exhaustive review2 of the subject up to two years ago, and concluded that infection occurs in from 3-5 per cent of all clean operative wounds, and that barring a break in technique there are three possible sources from which the bacteria responsible for these infections come. These are the air of the operating room, the hands of the operator, and the patient's skin. Two sources contribute to the bacteria of the air: a) the respiratory tract of the members of the operating room team, and b) the skin, hair and clothing of the operating team and the patient. The number of these bacteria may be reduced by observance of silence and use of proper masks, wearing sterile clothing in the operating room, posturing and draping the patient before bringing him into the operating room, and avoiding unnecessary motion and activity. The number of these bacteria can also be reduced by irradiating the air with ultraviolet light, by spraying it with germicidal aerosols, by constantly removing the contaminated air and replacing it with sterile air, or by a combination of these methods. Reducing the number of bacteria in the air by irradiating the air with ultraviolet light is said by Hart to decrease wound infections.

Further conclusions arrived at were that while few bacteria fall into wound from the air, there is evidence to prove that large numbers of bacteria may escape into a wound through holes in the surgeon's gloves. The incidence of torn gloves is larger than is generally realized, making the hands of the surgeon perhaps a more dangerous source of contamination than the air. This source can be to a great extent dried up by discarding the delicate rubber gloves which tear so easily and resuming the use of heavier ones such as were worn a few decades ago.

In the course of an elaborate investigation of this subject by a team of bacteriologists, it soon became evident that the number of bacteria in the air of the operating room for any given day was twice as high in the morning as in the afternoon, irrespective of activity, number of persons, or whether operations were performed; and that the high count is not dependent upon either number or kind of operations, number of persons in a room, or the nature of the activity. During the first operation eight persons were present in the room, during which time the count dropped to half what it was before the operation. During the second operation the count continued to drop in spite of the presence of nine persons.

In an attempt to determine the cause of the "high morning-low afternoon" counts data were compiled relative to every possible related factor. It was soon discovered that the temperature in the rooms remains constant in the fall, winter, and spring months and that convection currents were just as great in the afternoon as in the morning. The effect of the ceiling lights and the operating lamps as possibly influencing the counts was soon ruled out by obtaining similar data on non-operative days when the lights were not being used. Possibility of the sunlight charging the air particles to keep them in suspension was considered. In bacteriological analysis of the air of three operating rooms in two buildings on two different levels similar hourly distributions were found to prevail as a general condition, yet one operating room looks north, one east, and one west.

A consideration of all the data for a given day makes it evident that no cause-effect relationship exists between the operative procedures and the high bacterial count. The comment is made that "while Hart interpreted his data as suggesting such a relationship, we do not feel they warrant such an interpretation."

There were no air currents coming in from the windows, there was a marked flow of air into the room from the hallway via the transom. In view of the extensive traffic in the hall the bacterial content of the air in the hallway was studied on the half-hour and in the operating room on the hour. The data obtained show fewer bacteria-laden par-

ticles in the hallway than in the operating room for a given period—very significant since patients, nurses, doctors, students and ward help moved about freely in the hallway without masks. Even in the winter months the count was higher in the morning than in the afternoon. All cleaning was dispensed with on certain days, but the general distribution of infected particles remained the same.

Rice et al know of no demonstration that bacteria are disseminated into the atmosphere during the process of normal respiration. Their experiences have been that bacteria are not eliminated during either quiet or forced expiration; so long as there are no large droplets of saliva expelled, such as occurs with talking, sneezing and coughing.

The samples were collected from three operating rooms on 85 separate days, and involved over 1,500 determinations with the Wells air centrifuge and exposure of over 1,800 Petri dishes. The period of examination covered winter, spring and summer months. The conclusion is that while the bacterial content of the air in the operating room may occasionally be a source of infection for the clean surgical wound, the belief is expressed that its importance has been greatly overemphasized.

Davis Hospital has always enjoyed an extremely low incidence of wound infection in general surgery, due primarily to the strictest asepsis and careful attention to the most minute details of surgical technique on the part of operating surgeon, and surgeon and nurse assistants in the operating room, as well as careful preparation of patients and the elimination of every possible source of infection.

For more than five years we have had a system of air conditioning in the operating rooms and since then we have found that the incidence of wound infection, already small, has been materially reduced.

Even at best there is an occasional wound infection, most of them doubtless of hematogenous origin, some of them from air contamination.

In the process of air conditioning the air is washed, cooled and dehumidified. The air is washed by being carried through a mist or spray of water which takes out the dust particles and microörganisms. The air is then carried over refrigerated coils for dehumidification and cooling.

Making the operating room extremely comfortable in warm weather, a pleasant place in which to work, reduces the chance of wound contamination from sweat dropping into the wound or coming through accidental punctures in rubber gloves. Also, being able to operate in comfort is an encouragement to the surgeon to take all the time necessary for doing a thorough job. At the same time the air is almost germ-free—at least, to the extent

that wound infection that may be attributed to an air-borne infection rarely develops.

Wound infection is always disconcerting to a patient and when there is a suppuration in an incision, naturally, this is a great source of worry and anxiety to the doctor. Doubtless, hematogenous infection in wounds or auto-infection is at present the most likely source of wound infection with which we have to contend.

After five years, however, we feel that we can state positively that air conditioning has reduced the incidence of infection, which was previously very low, to a markedly lower percentage which, of course, is a great satisfaction.

Practical bacteriological tests have been made, using various methods, including Petri dish cultures made from various parts of the operating rooms under different conditions, and we have found that the organisms are practically eliminated from the air after the air conditioning has been in operation for a short period of time.

Where visitors are admitted and these are clothed in gowns, caps and masks, the air is not so likely to become laden with pathogenic organisms. However, where there is indiscriminate visiting in an operating room, particularly of persons with even the mildest of colds or sinus disease, whether acute or chronic, or any condition causing any degree of coughing, even though the coughing be into a handkerchief, there is a likelihood of the wound becoming infected from pathogenic organisms from the respiratory system.

Strictest attention has been paid to the prevention of air pollution from every source, even though the air conditioning system will take out most of these organisms.

Street clothes, particularly those of visitors who have been on long train trips or out in the street on dry, dusty days, are a prolific source of air pollution and thereby of wound infection—and infection of what should be a clean wound is one of the most difficult complications for a surgeon to explain to his own conscience, or to patient and relatives.

Fortunately, it is possible to screen off by means of gauze most of the incision except the actual part where the work is being done, and for this reason there is still further reduction of the number of organisms that may get into a wound.

The prevention of wound infection by every means we have at our command is one of the most important of the considerations in planning and performing any surgical procedure. Even in dressing burns and small cuts, modern surgery requires the wearing of masks and the exclusion from the room of all but those trained in and observing aseptic technique. Because of the multitudinous sources of pathogenic organisms, we must keep

constantly on the lookout in every direction for them and prevent in every way possible the pollution of an incision by organisms from the air or from whatever source they may come.

All those who work in the operating rooms should wash their hair before operations, as this will remove particles of dust and, consequently, a great many organisms which are always found on dust particles and sailing around through the air and certain to be deposited in the wound as the dust particles settle down.

There are, of course, many other sources of wound infection that have not been mentioned, but these are some of the more common ones against which we can direct our efforts with success.

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THE CARE OF COMMON EYE INJURIES

(W. O. Martin, Atlanta, in Jl. Med. Assn. Ga., June)

As a rule, in the early stages of contusions and inflammations, cold compresses are advisable, and later hot ones. An exception is acute iritis, for which hot compresses are to be used from the beginning.

Unless lid injuries are given very careful attention, disfigurement is prone to result with injury to the eye from distorted eyelashes. Cosmetic result of injuries must likewise be considered. Wounds or lacerations must be closed so that no gaping is allowed, with fine silk sutures placed very close together. Burns very often cause severe deformities requiring plastic surgery.

Chemical burns may be due to acids, alkalies or caustics. One of the most serious, that produced by lime, irrigate thoroughly with warm water or boric acid solution, to remove all particles of plaster, and 1% holocain solution, 1/2% pontocaine, or 2% butyn should be instilled, to relieve pain and to allow a better inspection of the eve. In all cases the upper lid should be everted becauses the upper culdesac may contain some of the lime. It is not advisable to try to neutralize an acid burn by instilling an alkali; or vice versa. The damage has already been done. In phenol or iodine burns, apply alcohol to the burned area, only if seen immediately. Provided the intraocular tension is normal, 1% atropine solution should be instilled, and the eye filled with 1% holocain ,or 2% butyn ointment, and then a patch applied to keep it closed. (Castor oil, vaseline or boric, if holocain or butyn oint-ments not available). Holocain acts as an analgesic, and is said to aid in the regeneration of the corneal epithelium; whereas, cocaine tends to destroy it. The ointment should be used at frequent intervals, to prevent adhesions from forming, also to relieve pain. The eye should be kept tightly closed with a patch because of the corneal abrasion. Movement of the lids prevents healing, and produces pain. If there is any swelling of the lids, use cold

A drop of 3% fluorescein solution, or 1% mercurochrome, will stain the abraded area, and help in observing progress of the condition.

When a foreign body is embedded in the cornea attempts to wipe it off will only abrade and invite infection and ulceration. A good light, a condensing lens, a magnifying glass, a few drops of 1/2% solution of pontocaine or 1% holocain are essentials. A few drops of epinephrine to the solution lessens the allergic tendency of the anesthetic solution. A small spud and a corneal curette most useful instruments. Metal foreign bodies leave rust stains, difficult to remove, and if one is not careful the cornea may be penetrated. These are best removed with a small

After the removal the conjunctiva of the lower lid is touched with 1% silver nitrate solution on a toothpick applicator of tightly wound cotton. Vaseline or boric ointment is then put into the conjunctival sac, and an evepatch applied for 24 hours, at the end of which time most minor injuries will be entirely healed. It is not necessary to instill atropine unless considerable irritation is present, because this is not without danger and its effects last for a week or 10 days.

In cases of powder burn only a few of the particles should be removed at a time. Tetanus antitoxin should be given in all cases of powder burn.

Ulcer of the cornea may develop following foreign bodies, especially those in the eye one or two days; if pus in the anterior chamber refer immediately to an oculist. If this is impossible, the ulcer should be cauterized with 95% phenol, followed by alcohol. Foreign proteins should be given-omnadin, boiled milk, or typhoid vaccine intravenously-as well as large doses of sulfathiazole.

Steel slivers may enter the eye, producing very little pain. Make x-ray picture on suspicion. Foreign bodies of copper and brass in many cases cannot be removed. It is generally wise to remove such an eye to prevent disease in the other eye. Foreign bodies in the orbit may not give rise to any symptoms, and in that case are best left alone.

The sclera near the cornea is called the danger zone, because injuries here are prone to produce sympathetic ophthalmia. After sympathetic disease develops removal of the injured eye will not save the other. The cause of sympathetic ophthalmia is unknown, as is true of the manner of extension to the opposite eye.

Exposure to bright lights or to ultra violet rays produces severe pain, blepharospasm and photophobia. Usually the symptoms manifest themselves several hours after the exposure. Ice compresses, adrenalin instillations, and holocaine, pontocaine or butyn ointment give relief

The promiscuous use of atropine is condemned. It is possibly the most valuable drug, used judiciously, in ophthalmologic practice; the most dangerous if used unwisely, It should never be used to dilate the pupils for an ophthalmoscopic examination. In patients over 40 years of age, it must be used very cautiously.

DEMEROL-A NEW SYNTHETIC ANALGESIC

(R. C. Batterman, New York, & C. K. Himmelsbach, Lexington, Ky., in Jl. A. M. A., May 22nd)

With the exception of the production of cough and diarrhea, Demerol has been found to be a satisfactory therapeutic substitute for morphine. It appears to possess the following clinical advantages over morphine.

Its spasmolytic action makes it ideal for the relief of conditions due to smooth muscle spasm, in which morphine is contraindicated.

Its rapid dissipation tends to offset undesirable cumulative effects such as respiratory depression and urinary retention. It appears to possess a lesser liability than morphine to the development of the habit.

In order to avoid the dangers of habituation, physical dependence and undue cerebral irritability, amounts greater than 150 mg. q. 3 h. should not be given. If this amount will not meet the clinical need, increasing the dose and shortening the interval not only may not have any additional therapeutic value but is apt to result in serious consequences.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

DR. CHARLES MACFIE CAMPBELL

Dr. Charles Macrie Campbell died in a hospital in Cambridge, Massachusetts, on August 7th. He was born in Edinburgh, Scotland, in 1876, and he was educated there, academically and in medicine. In this country his first work was probably in the Manhattan State Hospital on Ward's Island in New York City in the Pathologic Institute. For a brief period then he was on the staff of the Royal Edinburgh Asylum. Another brief service followed on Ward's Island: then he became first assistant physician at Bloomingdale Hospital, after which he served as associate professor of psychiatry at Johns Hopkins University from 1913 to 1920. Following the latter year, and for the remainder of his life, he was professor of psychiatry at Harvard University; and during that period he was also medical director of the Boston Psychopathic Hospital.

Dr. Campbell was a great man in psychiatric medicine. He was soundly educated and his alert mentality was busily engaged throughout his fairly long life in acquiring knowledge. He possessed learning without pedantry; dignity without austerity; friendliness without familiarity; wit without coarseness, and godliness without piety. He was a skilled practitioner of psychiatry, a capable medical administrator, an excellent teacher and a careful, informative and attractive writer.

But of all his varied contributions to medicine and to mankind the greatest was himself—a keen intellect, a virtuous character, a mind highly trained in a difficult specialty, an attractive carefulness in verbal selection and arrangement, a winsome personality and a genius for intellectual companionship. Though he appeared always to be at his best, as toastmaster at the President's Dinner during the last meeting of the American Psychiatric Association in May of this year he surpassed even himself in the sweetness and the keenness of his Caledonian verbal surprises.

Saul, head and shoulders above the great host, is gone; but through his labours and his influence he will long live amongst us to uplift us.

TETANUS IMMUNIZATION OF MILITARY PERSONNEL

All military personnel on induction are being immunized against tetanus either, as in the Army, by three injections of fluid toxoid, or as in the Navy and Marine Corps, by two injections of alum-precipitated toxoid (New Eng. J. Med., 227:162, 1942). In addition a small or stimulating dose is injected prior to departure for a theater of operations and an emergency dose is given to those wounded or burned in battle or incurring other wounds likely to be

contaminated with Clostridium tetani. According to recent report (Am. J. Pub. Health, 33:53, 1943) since June, 1941, when the present tetanus immunization program was adopted, there have been but four cases reported from the entire Army, and none of these was in immunized individuals. Although perhaps too early in the present war to draw any conclusions, it is of particular interest that no case of tetanus has been reported from battle casualties.

For civilian use, especially in children, it is best to immunize simultaneously against tetanus and diphtheria. Combined Diphtheria Toxoid-Tetanus Toxid, Alum-precipitated, Lilly, confers immunity against both diseases, and without risk of serum sensitization which may follow use of antitoxin.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

DERMATITIS VENENATA OF THE EYE LIDS

DURING the spring and summer of this year the writer has been impressed with the large number of persons applying for treatment, as against previous years, because of an inflammatory reaction of the skin of the lids. From the history in each case it was generally noted that the majority of such patients were Victory Garden enthusiasts. It was also noted that the percentage of cases was higher during the peak of the pollenating season and during the harvest season. Corn, beans, squash and okra were the most common causes. No tests were made to prove the individual or collective groups of vegetables responsible but the etiological factor was determined or suspected from the history of contact and from the fact that with a few exceptions these patients had not previously so suffered until they had suddenly been transformed into amateur farmers. Many complained of and presented areas of dermatitis on the exposed surfaces of the body and limbs.

For the most part the lesions of the eyelids presented a mild type of inflammation while a few suffered a rather severe reaction. Edema, redness and intense itching were the most prominent symptoms. Styes were a common complication, probably the result of rubbing the lids with unclean fingers. The mucous membrane of the lids and globes was often involved. No complications of the cornea were seen. Poison ivy was noted as a cause in only two cases.

Treatment was the application of soothing lotions to the lid lesions in the milder cases, soothing astringent drops for the eye sacs and in the severe cases an anesthetic ophthalmic ointment and cold wet compresses. The acute symptoms were, as a rule, alleviated in two or three days and the lesions healed within 8 to 10 days.

Recurrences were noted when the avocation was resumed. This was a point in determining the etiological factor as well as in the treatment.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

DIETARY TREATMENT OF LAENNEC'S CIRRHOSIS

IN CONTRAST TO THE USUAL American diet prescribed for liver disease—a diet high in carbohydrate but low in protein and fat-the diet here advocated1 is rich in protein and ample in carbohydrate and fat. It consists chiefly of meat, milk, eggs, fruit and green vegetables. Meat is served twice daily; milk five times daily-thrice with meals and twice with 25 grams of powdered brewer's yeast. It is well to feed the yeast in graded, increasing doses up to the final amount. For the few who cannot tolerate brewer's yeast substitute liquid veast concentrates. In addition, thiamin chloride (5 mgm.) is injected i. m. daily and liver extract (5 c.c.), twice weekly. The problem is one of feeding a patient to whom food often is loathsome. Regard for his likes and dislikes, encouragement and infinite patience are needed.

In patients with ascites the salt intake is restricted only by the exclusion of a salt shaker from the tray, and fluids are allowed up to 2000 c.c. daily. It is desirable to tap abdominal fluid before the patient is greatly distended, for this interferes seriously with the appetite. Mercurial diuretics injected once or twice weekly and ammonium chloride by mouth, space out the intervals between paracenteses.

Of the patients severely ill at the time of admission 22 showed progressive failure, 11 died within one month, only four survived more than five months. Twelve made partial improvement; five satisfactory improvement with loss of ascites; three remained free of ascites after having required abdominal taps in the past but they are not in robust health. Four others made similar improvement, but died, after being ascites-free for over two years. Those showing clinical recovery-1) Gain in weight and strength permitting the patient to resume his previous activity; 2) loss of ascites, edema, and jaundice without recurrence. The process had been arrested, or reversed to a degree that allowed the patient to live a normal life for several years. There is no doubt that there will be relapses, and that as a group their life span may be shorter than that of persons who have not had the disease.

Seven per cent of the control series, in contrast to 60 per cent of the treated series, experienced the spontaneous disappearance of ascites.

THE KIDNEY IN THE GENESIS OF HYPERTENSION

(1. H. W. Smith et al., New York City, 2. T. H. Page, Indianapolis, in Bul. N. Y. Academ. et Med., July)

Under the surgical and pathological evidence, as under the physiological evidence, the theory of primary renal origin of hypertension is unproved. So far as the genesis of essential hypertension is concerned ,the kidney appears to be the victim rather than the culprit. This is not to argue that if the genesis is complex the kidney may not play an intermediary role, even as the pancreas may play a role in all perturbations of carbohydrate metabolism. But to venture in this direction is pure speculation. The origin of essential hypertension is unknown.

2

The evidence concerning the following three questions has been examined: 1) Whether experimental renal hypertension, human essential hypertension and hypertension induced by angiotonin are similar and hence study of one will lead to elucidation of the others? It was concluded that allowing for differences in organization of quadruped and man, the similarities especially as regards hemodynamics are great. 2) Whether ischemia in the sense of anemia of the renal tissue is the factor initiating and maintaining hypertension? It was concluded that it was not a necessary factor and that the wide use of the term is unjustified by the evidence, 3) Whether the amine intoxication theory of hypertension is consonant with the clinical and hemodynamic picture of experimental and human hypertension. It was concluded that while interesting and important evidence has been presented, there are many serious difficulties that have not been explained which, on the whole, militate against its playing an important part at least early in the course of the disease.

Management of Peripheral Vascular Disease (A. W. Duryee, New York City, in Bul. N. Y. Acad. of Med., July)

In all cases of edema, regardless of the cause, when the patient becomes ambulatory, the tissues in the involved extremity must be supported, often for a long time—until evident that the edema will not recur when such support is removed. Bandages, rubber, woven elastic, adhesive and non-adhesive, or stockings may be used. The support must be adequate to control the swelling without blocking the arterial supply.

I have been able to demonstrate in several early cases of the congenital type of lymph-edema, that after dehydration and elevation of the extremity to reduce the edema, adequate support over several years will help the growth of collateral vessels sufficiently to prevent edema.

When frank lymphedema of marked degree has developed, medical treatment can be of little avail. Removal of the fibrotic edematous lymphatic tissue by some form of a Kondoleon operation is the only surgical method giving results at all satisfactory. Medically these patients should be prepared by elevation of the involved part and dehydration to remove as much of the fluid as possible. Sulfonamides should be given for three to four days to sterilize the tissues, which often contain streptococci, and immediately postoperatively blood or plasma must be given to prevent shock.

Hyperemesis Gravidarum

(E. C. Hughes, in N. Y. State Jl. of Med., Sept., '42)

The intake of sodium chloride should be at least 15 Gm. per day. In cases tending to dehydration enough salt and water should be given to assure a normal balance. It may take as much as 25 Gm. of sodium chloride, given slowly

^{1.} A. J. Patek, Jr., New York City, in Bul. N. Y. Acad. of Med., July

and not in concentrations or in amounts that will produce a diuresis.

Adequate amounts of glucose, by clysis or by duodenal tube or by vein may be required throughout the 24 hours of the day.

Large amounts of vitamin B and vitamin C should be used. Desoxycorticosterone acetate should be given those whose output of sodium and water is excessively high, as shown by weight loss, low plasma sodium and high sodium output in the urine. The output of sodium and water can be curtailed by the use of this material. The whole-gland extract may prove useful along with this material in individuals whose blood sugar levels are not constant. Tests of the blood suger levels should be made at various intervals during the day and night.

MALIGNANT LEUKOPENIA SUCCESSFULLY TREATED WITH SULFAPYRIDINE

(R. Heilig & S. K. Visveswar, Mysore, South India, in Il. A. M. A., June 26th)

In India urinary-tract infections are very common and, in our malnourished, multi-infected patients, of a far more serious prognosis. The introduction of the sulfonamide compounds improved the outlook. And yet the gravest of these cases, those showing leukopenia, were excluded from this treatment, because of the "danger" of producing this very condition. Such patients, usually severely anemic and refractory to methenamine and pentose nucleotide, had a mortality of 100 per cent.

The following two cases may show that a trial with sulfapyridine without any additional medication might change the hitherto apparently hopeless prognosis:

A Hindu aged 45, was admitted Oct. 10th, 1942, irrational and delirious; eight days of a continuous high fever with a rigor on the day preceded admission; leukocytes 15,600-n. 84, l. 14. Seven days later l. 7,400-n. 82, l. 15, I. m. 2, e. 1. After another week-a rigor, t. 102; subsequently the malaria flocculation test became positive and daily quinine was given by vein. After 3 days afebrile, another rigor and t. 102 (Oct. 28th), with small intermittences, remaining on this level for three days (Oct. 31st), comatose, urine and feces in bed, p. hardly palpable, r. 136, l. 2,600-n. 4, l. 81, l. m. 7, e. 8. Circulatory stimulation proved of no avail, in spite of leukopenia and granulocytopenia, sulfapyridine 1 tablet every six hours. The next day (after 4 tablets) t. 99.8, l. 3,750-n. 12. After another 4 Gm. in the next two days n. 20% with a total of 5,800 (Nov. 3d). At this time patient rational and asking for food; p. 80 to 88, t. normal since Nov. 2d.

A woman, aged 30, Nov. 26th, 1942, gave a history of diarrhea, pain in the abdomen, rigor and fever off and on for the last year. Malarial tests negative. Pelvic organs showed no pathologic changes. Tuberculin test (Mantoux) negative. Stools showed no pathogenic organisms on culture. Culture of the urine yielded Aerobacter aerogens. Blood 1,200,000 red cells, anisocytosis, hgbn. 22; 1. 2,400—n. 55, 1. 45.

On the ninth day diet of wheat conjee and buttermilk was changed to boiled unpolished rice and buttermilk, the patient had three loose bowel movements and t. rose to 100; next day increased diarrhea and rigors, t. rose twice to 104.5. Urine showed innumerable pus cells. On the sixth day (Dec. 10th) of this high febrile condition 1. 1,800—n. 18, 1. 79, and e. 3. Reds 900,000, hgbn. 16. In spite of the severe leukopenia and granulocytopenia sulfapyridine was started, 1 tablet q. 6 h., gradually reduced until 20½ tablets (10.25 Gm.) had been given within six days. After 4 tablets the t. came from 104 to normal and the patient was afebrile, except for one rise to 100 F. on Dec. 12th. The 1. count from 1,800 on Dec. 9th to 2,500 on the 12th, to 3,700 on the 13th and to 10,300 on the 17th, and was

stabilized at 7,000 during the following month-n. 75.

It is generally accepted that the sulfonamides are contraindicated in all cases of leukopenia, especially granulocytopenia.

So far as two cases can show small doses of sulfapyridine are capable of improving the rapidly declining leukopoiesis if the infective organism responsible for the severe toxemia respond promptly to the drug. In our cases such a response was established—apart from the changes in the blood picture—by the fact that the fever subsided immediately and the general condition, which prior to this medication apparently precluded any hope.

In both of these cases small doses of sulfapyridine, without any other treatment, brought about a rapid improvement of the general condition, especially of the white blood cells, leading to recovery from seemingly hopeless conditions.

Eight control cases were studied to see whether quinine or the methenamine-sodium salicylate- caffeine with sodium salicylate mixture administered by intravenous injection diminishes the number of leukocytes or the percentage of neutrophils. Such changes were not seen in these cases.

THOMAS HAD TOO MUCH FAITH IN HUMAN INTELLIGENCE Thomas Jefferson (1806) in a letter to Edward Jenner:

"Future generations will know, by history only, that the loathsome smallpox existed and by you has been extirpated."

PEDIATRICS

DIAGNOSIS OF SCARLET FEVER

THE Schultz-Charlton reaction is diagnostic of scarlet fever. It consists of the injection of convalescent scarlet fever serum, or antitoxin, into the skin of a patient with an equivocal rash. Positive reaction is local blanching of the rash at the injection site. The ability of the serum to blanch the rash depends on the presence of the specific antitoxin which will neutralize the scarlatinal toxin locally.

A reverse Schultz-Charlton test has been utilized¹ to determine the unknown blanching power of sera in 32 cases. When the patient was admitted for hospitalization, usually on the second or third day of illness, 5 c.c. of blood was withdrawn, the serum separated and placed in a labeled vial. This procedure was duplicated on the 14th and 21st days of illness. When the series was complete, the serum was used for blanch tests on patients with definite scarlatina rash, 0.2 c.c. of serum being injected intradermally. Quantitative reactions, graded from 1-plus to 4-plus, were recorded. If serum from the suspected scarlet fever patient blanched the known scarlatina rash, diagnosis could be made.

Serum taken from a patient with definite scarlet fever within a few days of the onset of symptoms has insufficient quantities of antitoxin to cause blanching of a scarlatinal rash; appropriate anti-

^{1.} J. D. Goldberg & J. deHoff, in Jl. Pediat., 21:757-762, 1942.

toxin levels are not developed until the second or third week after the onset of the disease. Thus, if serum collected during the first few days of illness does blanch a scarlet rash, evidence is against the diagnosis of scarlet fever. If the first serum obtained did not have blanching ability, but that obtained on the 14th or 21st day resulted in a positive blanch test, the diagnosis of scarlet fever was established.

FETAL HICCOUGHS

(W .A. McGee, Richmond, in Sou, Med. Jl., July)

In the past five years I have been able to collect 21 cases of hiccough-like spasms in the unborn fetus. Attention to fetal hiccoughs was first made by Ahlfeld. DeLee's very first paper was on "Fetal Hiccoughs." It was found by Erhardt that fetuses drink liquor amnii as early as the fifth month.

An interesting finding was the ability to reproduce the fetal hiccoughs by feeding a few of the mothers a specific food. Those mothers who greatly dislike milk should not be forced to take it, but should substitute calcium phosphate. Inasmuch as about half of the cases of fetal hiccoughs subsequently develop milk sensitivity either avoidance of milk after the hiccoughs occur or the use only of boiled milk seems indicated.

Where fetal hiccough is discovered, the obstetrician should inform the pediatrician and advise him he will in all probability have a very allergic infant. The pediatrician would do well to use soy bean vegetable milk where there is much colic or digestive disturbances or skin rashes rather than keep changing formulas. Mixed fish oils, cereals, vegetables and fruits had best be avoided. Dr. Warren T. Vaughan, Rechmond:

We think of the allergic reaction as involving smooth muscle spasm, a phenomenon which, so far as we know, plays no part in hiccough. Dr. Wm. B. Porter, Richmond:

What are the physical signs which Dr. McGee can elicit which justify the diagnosis of fetal hiccough? It has been my impression that allergic reactions are mediated through the parasympathetic nervous system, whereas hiccough is thought to be an intermittent contraction of the diaphragm which is mediated through the phrenic nerve. This nerve, as you recall, is classed as one of the spinal nerves. Dr. McGee:

The idea of fetal hiccough was first called to my attention by my wife, who observed the phenomenon when she was 4½ months pregnant. Just how it occurs I do not know, but it feels and sounds like ordinary hiccoughs.

INFANTS AND OVERFEEDING

(M. G. Neely, Fairfield, in Jl. Med. Assn. Ala., July)

We are overfeeding many of our infants to no advantage. Many cases of eczema, constipation, vomiting and colic are due to this practice. Many of these cases can be prevented by starting the infant on small amounts of any new food, and gradually increasing it, allowing the babies' digestive organs to adjust themselves to handle this food; and by prescribing a diet sufficient to make an average baby and not one designed to make it the biggest baby in the vicinity.

BEST TREATMENT OF ACUTE OSTEOMYELITIS (A. C. Schmidt, Milwaukee, in Wisc. Mad. Jl., Aug.)

Sulfadiazine should be given immediately on the basis of one grain per pound of body weight per day. This dosage may be safely increased on 1½ grains for several days.

The optimum blood level should range between 7 and 12 mg. per 100 c.c. during the acute stage.

As soon as the t. has subsided, the dose may be increased to $\frac{1}{2}$ grain per pound of body weight per day.

In a month or six weeks after the onset of treatment, the dosage of sulfadiazine may again be decreased. A blood level of 3-7 mg. per 100 c.c. should be maintained an additional three months. As a safeguard while giving large doses of sulfadiazine, a complete blood count, urinanlysis, and sulfadiazine blood level are indicated every other day. The fluid intake should be charted daily. Concentrated urine favors the formation of urinary sulfadiazine crystals.

Repeated small transfusions and dextrose by vein are of considerable benefit.

DENTISTRY

J. H. GUION, D.D.S., Editor, Charlotte, N. C.

THE ETIOLOGY AND CONTROL OF DENTAL CARIES¹

TODAY 98 PER CENT of the population of this country suffer from the effects of the disease; 18.8 per cent of the rejections for military service are due to oral conditions.

It seems that we have two clear-cut processes opposing each other the result of which will determine whether the tooth will decay. The acidneutralizing power or buffer capacity of the saliva is a very important factor, depending on the diet as a major factor. Any saliva, provided it could reach all parts of the mouth in a never-ending stream, would be adequate to prevent caries. In many cases, the teeth are so arranged that there are areas in which stagnation can occur, such as are found with certain types of contacts, pits and fissures and some malocclusion and orthodontic appliances. In many mouths, where areas of stagnation are few, there is such a slow flow of saliva that many fairly accessible areas in the mouth become stagnant.

Nature has endeavored to compensate for lack of saliva in some cases by supersaturating the saliva with tooth minerals, but even this is not enough if much stagnation is present.

The damaging forces that Nature has been trying to overcome have become increasingly powerful with a modern diet. In many mouths acids are formed with amazing speed. This rate of acid formation is governed by two primary factors. The rate of acid formation depends to a large extent on the type of substrate present. Any of the simple sugars and sucrose and maltose are very good substrates for rapid acid formation. It is possible that other carbohydrates will serve as substrates, but with them the rate of acid formation is slow as compared to that of the monosaccharides and disaccharides.

1. L. S. Fosdick, Ph.D., Chicago, in Jour. A. D. A., Dec. 1st, 1942.

The other governing fact in relation to the rate of acid formation is the enzyme system present. If an optimum enzyme system is present, the acids are formed rapidly, but if any one of the necessary enzymes is absent or is present only in suboptimum quantities, the rate of reaction is that permitted by the deficient enzyme.

Presumably, most of the enzymes come from the bacteria of the oral cavity, but it is possible that some of the necessary enzymes or coenzymes are derived from the saliva or even from the oral tissue

itself.

For controlling caries there are three avenues of approach: We can increase the protective action of the oral cavity, we can eliminate the substrate or we can destroy the enzyme system. Any method must include the measuring of caries activity.

When active caries is present, *L. acidophilus* is also present. The *bacteriologic* procedure can be performed in any dental office with little equipment, and will assure accurate correlation with clinical estimations in 85 per cent of cases.

The chemical test for dental caries: the saliva is gathered, mixed with the sugar and the enamel, then incubated four hours. At this time, the amount of acid formed is measured by determining the amount of calcium dissolved, dissolution of calcium being a function of acid formation. The saliva must be freshly gathered and an elaborate equipment is necessary. Its use will probably be confined to institutions for the present.

On the basis of these considerations, there are several procedures by which we may reduce caries activity. Some of these affect acid-neutralizing power or buffering capacity. Operative or orthodontic treatment has gone far in eliminating areas of stagnation, but is often resorted to after the caries process is well advanced. The acid-neutralizing power of the saliva can be affected by an alkaline diet.

There are substances that are known to poison certain enzymes necessary in the formation of acid. One of these is the fluorine ion. There are certain areas in this country and abroad where the drinking water contains sufficient fluorine ions to cause abnormal tooth formation, and in these areas little dental caries has been found.

By the use of iodo-acetic acid the caries sometimes observed in rats is inhibited.

In the use of any of these enzyme poisons, toxic symptoms may arise that would be of greater harm than the disease.

Another method of controlling caries would be giving a diet with no free sugars—effective in some hands up to 90 per cent of cases.

The main disadvantage of this method is the habit of consuming large quantities of sugar so firmly established in this country.

The acids formed in the production of dental caries are present only shortly after the ingestion of fermentable sugars, and decalcification is complete in a short time; so, if the sugars and acids are cleared from the mouth before injury has time to set in, the caries process will stop immediately.

Fifty patients were selected, all very susceptible to caries, as determined both by chemical analysis and by clinical observation. All cavities were filled, so that the mouth was free from caries. No attempt was made to alter the diet, which in some cases was high in free sugar. Immediately after the ingestion of food, each patient was required to rinse his mouth well with an antiseptic, chew a stick of antiseptic paraffin and brush his teeth with a good brush and a dentifrice. Only twenty of the patients continued the experiment for as long as six months.

In 14 of the cases, no caries developed during the test period, while, in six cases, caries developed in three so slight that the examiner was doubtful whether it had not been missed on the first examination.

The cause of the disease is discussed in detail with the patient and the various means of control are outlined. The patient is then instructed concerning the free-sugar intake. The patient is instructed to clean the mouth *immediately* after the ingestion of food, to use copious quantities of water swished forcibly between and around the teeth. In this manner, much of the free sugar or acids can be removed before damage results.

Careful brushing of the teeth and chewing a stick of paraffin, in addition, will help to prevent caries.

DERMATOLOGY

J. LAMAR CALLOWAY, M.D., Editor, Durham, N. C.

THE PRESENT STATUS OF SHORT COURSE ANTISYPHILITIC THERAPY

DURING THE PAST TWO OR THREE YEARS there has been a tremendous swing from the standard antisyphilitic therapy courses as outlined by the Clinical Coöperative Group and others to the short-course treatment procedures. The short-course treatment procedures include the one-day fever therapy-chemotherapy treatment, the five-day massive intravenous chemotherapy treatment, and many other short-course variations of all kinds, the most promising of which at the moment appears to be the treatment regimen advocated by Eagle.

It should be emphasized emphatically to all physicians and patients from the outset that these regimens are purely experimental and should be conducted only by large clinics with adequate personnel and adequate clinical and laboratory facilities for carrying on investigations and follow-up of all patients treated.

Many of these experimental procedures are dangerous, and as yet completely unevaluated. Out of the various systems that are being tried there is certainly going to come a short-course treatment of syphilis which differs greatly from the present "eighteen-month, 70-injection" treatment regimen which is standard treatment at present; but only after some ten years' observation can it be evaluated. These patients must be examined ten years from now to see if they have developed cardiovascular syphilis or central-nervous-system syphilis in greater proportion than patients treated by the established method.

It is admitted that the present treatment procedures are somewhat a result of everyone falling in line behind the original investigators, giving treatment once weekly, when it has been known by all that most of the arsenical was excreted within four or five days and therefore each week we have invited relapse. Considering the arsenical drugs to be 100 per cent efficient drugs, we have consistently alternated bismuth and mercury courses which are only 35 per cent as efficient as the arsenicals as spirocheticides, and, although many theories have been advanced as to why metals of the bismuth-mercury group should be used in alternation, there is no proof that they build tissue resistance and it brings up the question of why we should ever use a 35 per cent efficient drug when we have a 100 per cent efficient drug available. The theory of drug resistance being lessened by alternating courses is plausible but not established.

It is hoped that through various investigations now under way a more intelligent approach to the treatment of syphilis will emerge; but, for the conservative physician, until these procedures are evaluated adherence to the accepted standardized form of anti-syphilis therapy is preferable.

This discussion is not designed in any way to discourage investigation in clinics and laboratories that are equipped to evaluate newer methods of treatment; it is meant to discourage the indiscriminate use of short-course therapy by the physician who treats only a few cases of syphilis. I am confident that we shall soon have a simplified short-course treatment regimen which will be more satisfactory to patient and physician and will enable us to complete the prescribed therapy on all patients since the patient will not have to face such a prolonged course of therapy.

anv

Aside from the discomfort and loss of time at work suffered by the patient, he has become sensitized to this group of drugs, so that when a really serious need for the use of sulfonamides internally arises, such as the treatment of pneumonia or erysipelas, the drug may cause severe reactions.

There are several legitimate uses of local sulfonamide therapy on the skin, chiefly the treatment of impetigo, pyodermas and chancroids. Except for the last named, there may be some question as to the advisability of using this therapy because of the relatively high incidence of sensitization.

There is no excuse for the use of this therapy in acne, psoriasis and dermatophytosis. Eczema is almost invariably aggravated by the treatment.

If the physician is not capable of making a correct diagnosis, it will be much safer to stick to the use of calamine lotion in all skin diseases.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

BENIGN PROSTATIC HYPERPLASIA

"The restoration of normal micturition is the common goal of suprapubic, perineal and transurethral prostatectomy."

IN NO CASE is the entire gland removed to achieve this result. The operation of choice is that which will, in the individual case, most satisfactorily remove the hyperplastic prostatic tissue which compresses the normal tissue to form a surgical capsule. There is, however, a commonly-accepted misconception that the performance of suprapubic or perineal prostatectomy is a guarantee against subsequent development of carcinoma of the prostate and also recurrent prostatic hyperplasia.

So is introduced¹ a discussion of the rationale of the choice of measures for dealing with obstructive prostatism. And there is elaboration:

The capsule which remains after any form of operation is normal prostatic tissue and has the same chance as before the operation of becoming the site of carcinoma or hyperplasia.

From one 56-year-old man a large amount of benign tissue was removed by the suprapuble route. For the ensuing eight years he suffered nothing worse than a slight pyuria; but, seventeen years after the operation, the patient was shown to have carcinoma of the prostate, probably of two years duration. This patient lived for seven years more, receiving no specific treatment.

Another patient, aged 65, after perineal prostatectomy, experienced urinary incontinence for six months and then a period of perfect health for nine years, when he developed a condition which proved to be malignant. "A permanent suprapubic the Treatment of Benign Prostatic Hyperplasia. Greene and Thompson, J. A. M. A. J. July 17th.

Abuse of Local Sulfonamide Therapy—A Warning (Editorial in Mol. Am. D. C., June)

Dermatologists are seeing an ever-increasing number of severe sensitization eczemas from local sulfonamide ther-

cystostomy catheter was inserted, but the patient failed gradually and died of carcinoma of the prostate gland"—twelve years after the prostatectomy.

These and other cases serve to show "that prostatectomy performed either by suprapubic, perineal or transurethral methods confers no immunity on the patient treated against the subsequent development of prostatic carcinoma," and that regardless of the type of operation performed.

"One of the advantages frequently ascribed to suprapubic or perineal prostatectomy is the removal of undetected carcinoma within an adenoma." One such case is reported in which the suprapubic method was used. The fourteen years of perfect health which followed was not ascribed to the method employed but to the removal of malignant tissue.

"More frequently than not, however, in spite of the fact that carcinoma may be microscopic in size the lesion has spread to the perineal lymphatic vessels, and in such a case cure by any of the three methods—is impossible.

ANDROGENS AND THE TREATMENT OF TESTICULAR HYPOFUNCTION

HOWEVER loth a man may be to become a father, evidence that he cannot do so distresses him greatly. Inability to obtain an erection and to perform the sexual act in such manner as to excite no derision makes life a burden to most human males.

Matters bearing on relief comes from the University of Virginia:1

Eunuchoids have testicles of various sizes, but the size bears no relationship to the degree of hypofunction. When deficiency occurs before puberty, there may be great overgrowth of the long bones due to delay in epiphysial union. Some eunuchoids are of average height, or even dwarfs. Adiposity, if present, is characteristically distributed around the mammae, abdomen, and trochanteric areas. Spermatozoa are almost uniformly absent. The penis remains infantile, and the scrotum is underdeveloped with fine rugae and little pigmentation. The voice is high-pitched, due to the lack of development of the larynx. The thyroid cartilage is not prominent. There may be complete absence of beard, or a very fine fuzz. Body and pubic hair are usually sparse. Pubic hair may be developed, but with the female escutcheon. We have not observed baldness in eunuchoids even at 80 years of age. Acne never develops. The prostate and seminal vesicles are usually impalpable.

After puberty, the epiphyses of the bones are closed and no increase in height is possible.

Testosterone propionate, 25 mg. in oil, injected

subcutaneously three times per week will produce entirely satisfactory results. The amount which gives satisfactory libido and potentia might be less than that required for penile growth, and the amount which brings about a satisfactory subjective and psychic effect may be still less.

The first subjective response in eunuchoid patients (24-48 hours) is marked stimulation of libido and erections. Firm erections are often present during most of the night and frequently during the day in the first two months. Orgasm and pleasurable sexual sensations occur for the first time. Nocturnal emissions are frequent in the first six months. Every patient reports added muscular strength and energy with improvement in psychologic outlook.

The penis beings to grow by the end of the second week and continues rapidly for 4-6 months. The prostate is palpable by the end of two weeks, with the appearance of microscopically normal secretion. There is notable increase in pubic hair by the end of four weeks, followed by development of the male escutcheon. Many patients shave more often, but a thick beard rarely develops. The skin shows a great increase in sebaceous secretion. The face becomes ruddy. High-pitched voices change to a lower pitch with cracking and hoarseness after 2-12 weeks. Except in those patients with minimal deficiency, this replacement therapy must be continued indefinitely. There is as yet no evidence of toxicity or deleterious effect from prolonged therapy.

Testosterone by mouth provokes a negligible clinical response; 20-30 mg. a day of peroral methyl testosterone is equivalent to 25 mg. of testosterone propionate administered subcutaneously 2-3 times weekly. Testosterone dissolved in propylene glycol (1 c.c. contains 25 mg.) is absorbed when held under the tongue; the daily dose is one-third of the peroral dose.

TUBERCULOSIS

J. DONNELLY, M. D., Editor, Charlotte, N. C.

LOOKING-FOR, RECOGNIZING AND COMBATING TUBERCULOSIS AT A STATE HOSPITAL

There is every reason to believe that all large general hospitals have a considerable number of patients come and go with unrecognized tuberculosis.

Members of the staff¹ of a State hospital have taken cognizance of this fact and worked out and put into operation a plan for dealing with this situation. This plan, here described in some detail,

^{1.} S. A. Vest & B. Barelare, Jr., Charlottesville, in Clinics, Feb.

^{1.} M. Greenberg & J. V. Edlin, Chicago, in Ill. Med. Jl., Aug.

is worthy of adoption, probably with modifications, in all general hospitals, whether for patients with chronic or acute disease conditions.

At the Chicago State Hospital the medical staff long recognized that there were many cases of active tuberculosis on the general wards, but due to insufficient diagnosis, lack of a tuberculosis ward, and incomplete follow-through of the many patients after diagnosis, plus faulty transmission or delay of reports, active cases remained on general wards transmitting their infection to others, and when a patient was sent to the tuberculosis section the case was usually so far advanced as not to be amenable to medical or surgical therapy.

To correct this condition and to safeguard the personnel of the institution a vigorous program was instituted.

It was decided to rely upon fluoroscopy examination of the chest and confirmation with x-ray glms for the diagnosis of tuberculosis. An attempt to obtain sputum routinely was a failure.

Any member of the personnel who thought a patient was losing ground physically was encouraged to send such patient for x-ray examination of the chest.

The present program is as follows:

- All patients admitted receive a fluoroscopic examination. If the chest is found to be fluoroscopic positive or suspicious, an x-ray picture is taken.
- All patients suitable for pneumothorax are so recorded and treated. Those far advanced are segregated on a separate ward for other methods of treatment.
- All of the patients in the institution are examined fluoroscopically when they—
 - a. show a weight loss of more than five pounds for two successive months;
 - b. have an unexplained t. elevation;
 - c. have a chronic cough;
 - d. have night sweats.
- 4) When a case of tuberculosis is found on a general ward, all the patients on that ward are classed as contacts and given fluoroscopic examination.
- 5) No tuberculous patient is permitted on a general ward until his x-ray plate is tuberculosis negative and his record shows him or her to be afebrile.

In order to carry out provision number three:

Monthly weighings of patients are done routinely and recorded. A special list is made of all patients having a weight loss of five pounds or more for two successive months.

The supervisor receives copies from the wards, one of which is given to the ward physician, the other to the consultant in charge of tuberculosis.

All patients considered suspicious have fluoros-

copy, and if still suspicious an x-ray picture is taken.

All employees who have been in contact with a tuberculous patient, or who are employed on a tuberculosis ward are routinely x-rayed.

When a case of tuberculosis is found on a ward, all other patients on that ward are considered contacts, and every patient on the ward is examined by fluoroscope. Active cases of tuberculosis are immediately sent to the tuberculosis ward, and in many cases, directly from the x-ray room.

When an x-ray picture is taken, it is studied by the physician in charge of tuberculosis, by the chest consultant, and the x-ray consultant; three independent opinions offer a far greater opportunity for the proper diagnosis.

We have six printed forms, and as soon as additional needed equipment is installed on the tuberculosis wards, two more forms, a routine three months examination, and an active treatment form, will be printed. No. 3 is the fluoroscopic report made in triplicate—one copy to the record room, one to the ward physician, and one to the examining tuberculosis physician. No. 4, an x-ray plate report, is made out in quadruplate—one copy to the record office, one to the ward physician, one filed with the x-ray picture, and one goes to the tuberculosis physician.

In all cases where there is doubt as to the diagnosis, every effort is made by a specially trained nurse to obtain sputum findings, three on separate days. A t. reading b.i.d. is taken for 14 successive days.

A daily log is kept in which fluoroscopy and xray chest examinations are scheduled in advance on all suspects.

From January 2nd to March 6th, 1942, when the department was functioning well and the personnel was at its full quota, 550 chest examinations were made, of which number 115 were weight losses, 435 contacts and new patients. Twentynine patients were transferred to the tuberculosis ward, five *from* the tuberculosis ward. Twentynine permits for collapse therapy and phrenic nerve surgery were given; six aspirations, six pneumothorax treatments were given and eight phrenicotomies were done.

A difficult hurdle at the present time is the sound recommendation by the State Health Department that the attendant or nurse must be 35 years of age or more, mantou positive, and x-ray negative.

The tuberculosis wards are divided into an active and inactive wing. Each wing is again divided into two parts—one section is for the tidy and coöperative patients, the other for the untidy and uncoöperative.

When the program was started there were 75 known cases of pulmonary tuberculosis in the men's and women's infirmary. Today there are 250 cases of known tuberculosis, and in all likelihood, with this intensive work, it will reach about 10 per cent of the population which at the present time is 4772.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

INFORMATION ON PENICILLIN

EVERY PRACTICING PHYSICIAN needs to be informed on a product for which great claims are being made in the lay prints. From Abbott Laboratories' "What's New," the following summary is derived:

Penicillin is an antibacterial substance extracted from cultures of a particular strain of mold. Penicillin is one of a long line of antibacterial agents produced by microbes themselves, and is a manifestation of a feud between two forms of microscopic life. During the millions of years this battle may have been going on, one strain of Penicillium has apparently developed an agent of almost incredible toxicity for many coccal bacteria, though it has practically no poisonous effect upon higher forms of life.

Other instances will be recalled in which microorganisms have been turned against one another. The antivirus of Besredka comes to mind and the bacteriophage of Twort and D'Herelle—a submicroscopic parasite which attacked certain bacteria in much the same way as the bacteria themselves attack higher animals. There are also the substances discovered by Dubois—gramicidin and its fractions, produced by a bacillus which happened to be present in a sample of soil to which the investigator "fed" pure cultures of pneumococci for a long time. The therapeutic application of gramicidin has been limited by the fact that it exerts toxic effects on higher animals when injected intravenously. Local application has proved successful.

While gramicidin was still being developed and discussed, interest in penicillin was revived. It had the same high potency against many gram-positive pathogenic bacteria, and could be tolerated intravenously by mammals after sufficient purification from pyrogens. The active agent is found in the broth medium in which a certain species of penicillium has been grown. It may be concentrated and purified until the concentrate contains as much as 5000 times the activity of the original broth. The active substance is labile in the presence of heat, light and acids, and the yields are small. The obvious indication is to isolate the pure sub-

stance, determine its structure, and then produce it synthetically. Meanwhile, the small output of manufacturers who are working with penicillin is totally preëmpted for research and for the use of the armed forces.

Abbott Laboratories has been engaged in research on penicillin for more than a year, and has coöperated with one of the most prominent groups in this country in furthering clinical trials. All the limited supply of the drug has been used in these activities and absolutely none is available for clinical use at the present time. The demands of the armed services will probably make all future supplies unobtainable for civilian use, even in cases of dire emergency, until after the war.

Herrell, of the Mayo Clinic, and his co-workers investigated the anti-bacterial power of penicillin, and tested its toxicity for mammalian cells by a tissue-culture method. They conclude that penicillin should be reserved for the treatment of severe infections caused by staphylococcus aureus, streptococcus pyogenes, susceptible strains of diplococcus pneumoniae, neissseria gonorrheae and neisseria intracellularis. It does not seem to be indicated for the treatment of infections caused by the commoner gram-negative organisms, and its use for mild infections or for those which would readily respond to other antibacterial agents, such as the sulfonamides, would seem wasteful unless large supplies become available. Penicillin is ineffective against tubercle bacilli, and it combats only occasional strains of green streptococci. On the basis of experimental evidence, it may prove effective against infections associated with gas gangrene, and it also appears to be active against actinomyces bovis.

Herrell believes that the most effective way to administer penicillin in severe infections where it is indicated is by means of a constant intravenous drip. Thirty to forty thousand Oxford units in 24 hours is considered an adequate dose, and half of this should be dissolved in one liter of physiological saline solution or 5 per cent glucose. Initially, 100 to 200 c.c. of this infusion should be administered at a fairly rapid rate; then the rate of injection is slowed to between 30 and 40 drops per minute. In 8 to 10 hours, after the first liter has been used up, a second liter may be administered through the samein tra intravenous hook-up.

The most spectacular results which have been obtained from the use of penicillin by the Mayo group have been in cases of fulminating cellulitis and bacteremia. A child at this group was moribund in appearance, blood cultures showed 25 colonies of hemolytic staphylococcus aureus per c.c. Penicillin was administered for ten days, 20 to 30 thousand Oxford units daily for the first five days. After 96 hours improvement was great, and nine

days' treatment brought complete recovery.

If and when penicillin becomes available in plentiful amounts at low cost, it may find application in the treatment of sulfonamide-fast gonorrhea. If the pathogenic bacteria do not take too much advantage of our wars to destroy us, we may, some day, utilize their wars to destroy them.

THE TREATMENT—PREVENTIVE AND CURATIVE—OF PAINFUL FEET

PRETTY NEARLY ALL writings on painful feet mention in a casual way that walking with the feet turned out is a factor in some cases of painful feet; but none of them says that sluefootedness is the main cause of the falling of the arches and the resultant pain.

Montgomery¹ stresses this point the most of any orthopedist of our acquaintance.

This valuable article brings it to mind that every doctor who has the care of small children should assume the obligation of seeing that they learn to walk with their feet pointing straight forward. In addition to insurance against painful feet, this manner of walking is more graceful, it gives an additional inch or more to each stride, and it is saving of shoes.

Fatigue he recognizes as the most common cause of foot strain. The muscles of the legs become tired, the support of the arches is lessened, and there is increased strain upon the ligaments holding the bones of the foot in an arch formation. When the arches are flattened, the individual walks with his feet turned out, and this gait places abnormal pressure on the balls of the feet. The forefeet soon broaden, the toes claw, and corns and calluses develop as a result of increased pressure against various parts of the shoes.

Consistently he points out that if the feet are used with the feet pointing straight ahead, the muscles supporting the arches will be strengthened as the feet are used. Temporary aids, such as adhesive strappings, padding inside of the shoes, and alterations on the outside of the shoes, are sometimes necessary. As the abnormal positions of the feet are corrected ,the calluses and corns disappear without other treatment. Although built-in and removable rigid arch supports relieve strain on the ligaments of the arch and lessen pain temporarily, they cause further weakness of the muscles that support the arch because the supports are doing the job the muscles should be doing. Without exercise the muscles become progressively weaker. Such supports have limited use by aged people. Rarely are they indicated for use by children, because muscle strength in the foot should be developed by exercise in the process of correct walking. A flexible shank shoe permits normal use of the foot, and a rigid shoe hinders it

1. R. P. Montgomery, Milwaukee, in Wisc. Med. Jl., Aug.

Women's dress shoes are of necessity rigidshanked because of the high heels, both conducive to foot strain and to numerous foot disorders. Attractive ,low-heeled, flexible-shanked shoes are to be prescribed for use in the home and in one's immediate neighborhood.

For relief of acute symptoms, the directions are simple and specific. Acutely painful feet and aching leg muscles can be readily relieved by relaxation in a tub of warm water for one or two minutes followed by elevation of the legs over the water level for the same length of time. Five to 10 changes in position are usually adequate. An additional aid can be easily added by voluntarily dorsiflexing the feet, bending the toes toward the soles and at the same time turning the soles towards each other while the legs are elevated. These positions should be maintained throughout the two-minute period of elevation.

HERPES ZOSTER

(P. C. Baird, Jr., Boston, in New Eng. Jl. of Med., May 6th)

The accumulated evidence supports the opinion that herpes zoster is an acute posterior poliomyelitis due to the virus of chickenpox, and unrelated to the virus of herpes simplex.

The skin eruption of herpes zoster consists of a cluster of vesicles situated on a basic plaque of erythema. Several such clusters are usually present and may involve any part of the body. The vesicles themselves are tense and thickwalled.

The pain may be severe or none. Especially in elderly patients, it may occur as a severe neuralgia persisting for months or years after disappearance of the skin lesions.

Calamine lotion with phenol as a constant application to the lesions serves admirably. Vesicles so treated will usualply involute leaving no scars. Thick cotton pads are useful to cut off cutaneous stimuli that would aggravate hyperesthesia and pain. As the vesicles disappear and healthy, noninfected dry crusts form, it is profitable to apply lanolin or vaseline to hasten involution.

Sometimes it is necessary to prescribe salicylates, phenacetin, barbiturates, codeine or morphine in addition to local measures. An ethyl chloride spray over the affected dorsal root ganglia has reduced pain. Cobra venom has been employed with prompt, complete and gratifying relief. Local anesthesia, nerve block and subcutaneous injection of thiamin chloride have been recommended as valuable pain-controlling measures. Radiant heat is comforting.

Unfiltered roentgen irradition of the skin lesions and filtered x-ray therapy to the affected dorsal root ganglia have relieved pain and shortening the course of the disease.

A STILL-BETTER INSULIN

(C. M. MacBryde & H. K. Roberts, St. Louis, in Jl. A. M. A., Aug. 28th)

A modified protamine zinc insulin having 75% slow (or precipitated) insulin effect, to 25% rapid (or soluble) insulin effect can be substituted with advantage for the forms of insulin now employed in maintenance therapy of diabetes. Since the effects of this insulin are more closely adjusted to the requirements of most patients with diabetes, better control is possible with it than with standard protamine zinc insulin. One injection, daily, should permit good regulation in the great majority of cases.

Two forms of insulin should be sufficient: a) a modified protamine zinc insulin such as that used in these studies. Such a modified insulin might well be substituted for the standard protamine zinc insulin now used; b) regular (crystalline) insulin, for use in diabetic emergencies and whenever supplementary insulin is required.

THE USE OF SULFONAMIDES IN THE GASTRO-INTESTINAL TRACT

(Hughes Kennedy, Birmingham, in Jl. Med. Assn. Ala., Aug.)

Sulfathiazole and sulfapyridine appear to be equally successful in the treatment of dysentery but are little used on account of their toxicity. In certain cases of invasion of the tissues by the organisms these drugs should be more useful on account of the higher blood concentration.

A child with infectious diarrhea should immediately be given sulfanylguanidine or succinylsulfathiazole. If improvement is not obtained in 48 hours, sulfathiazole should

substituted.

The usual dietary and supportive treatment, including much fluids, should be instituted. In certain cases vitamin B complex seems to hasten recovery.

HISTORIC MEDICINE

WHITE (1773) AND GORDON (1795) THE PIONEERS IN TEACHING CONTAGIOUS-NESS OF PUERPERAL FEVER

Most of us are familiar with Oliver Wendell Holmes' great part in convincing the medical world of the contagiousness of puerperal fever. Many can quote from memory his matchless plea: "The woman about to become a mother, or with her newborn infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden or stretches her aching limbs" . . . concluding with: "God forbid that any member of the profession to whom she trusts her life should hazard it negligently, unadvisedly, or selfishly."

But few know that White of Manchester, seventy years, and Gordon of Aberdeen fifty years, before had written books setting forth the same evidence and conclusions.

Watson,¹ in the Centenary Celebration of the publication of Holmes' most famous medical essay, tells us what full credit the essayist gave, and we are glad of the opportunity to pass this information on to our readers.

We quote directly from Watson:

In reviewing the literature he gives every possible credit to the real pioneers. The first he mentions is Dr. Alexander Gordon of Aberdeen, Scotland, who in 1795 had published in London a book entitled: "A Treatise on the Epidemic Puerperal Fever of Aberdeen." In this work, Gordon, from a review of 77 cases—in which he traced the channel of propagation—came to the conclusion that every person who had been with a patient in the

Holmes devotes only one short paragraph to Dr. Charles White of Manchester, who was the first to make a real contribution to the understanding and prophylaxis of the disease. His work entitled "A Treatiset on the Management of Pregnant and Lying-in Women and the Means of Curing, but More Especially of Preventing the Principal Disorders to Which They Are Liable," was published in London in the year 1773.

White emphasized the need for ventilation, clean rooms, clean linen, the isolation of patients in separate rooms in hospitals, and the immediate removal of patients with the disease from those unseffected. After a patient with fever left the room all bedding and curtains were to be washed, and the floor and woodwork cleansed with vinegar. His teaching became generally known all over Britain, and, before the close of the Century, it was recognized by many that the disease might be conveyed by the attendant from one patient to another.

This teaching bore immediate fruit, as shown by the results obtained in the Rotunda Hospital, Dublin, under the Mastership of Robert Collins who, in the report covering his Mastership, from 1826 to 1833, tells how, from the time he carried out a thorough cleaning of the wards, using copiously on the floors and woodwork chloride of lime, he abolished child-bed fever altogether, although in the immediately preceding years, there had been extensive outbreaks. He wrote, "From this time (i.e., since he adopted the methods of White) until the termination of my Mastership in November, 1833, we did not lose one patient by this disease. As the Wards of the Hospital are occupied by the patients in rotation, as soon as each in succession was vacated I continued the use of the chloride of lime, confining its application to the floors. In this way each Ward was washed every 10 or 12 days, the solution being left undisturbed for 24 hours, during which time the blankets, quilts, linen, etc., were suspended, so as to be exposed completely to the chlorine gas, which

puerperal fever became charged with an atmosphere of infection, which was communicated to every pregnant woman who happened to come within its sphere. "This is not an assertion, but a fact, admitting of demonstration. . . . It is a disagreeable declaration for me to mention that I myself was the means of carrying the infection to a great number of women." He states further "I arrived at that certainty in the matter, that I could venture to foretell what women would be affected with the disease, upon hearing by what midwife they were to be delivered, or by what nurse they were to be attended during their lyingin: and, almost in every instance, my prediction was verified."

^{1.} B. P. Watson, New York, in Bul. N. Y. Acad. of Med.,

is copiously disengaged from the preparation mentioned."

Boer introduced White's methods into the Allgemeines Krankenhaus in Vienna in 1789, with the result that he reduced the mortality over a period of 30 years to 1.3 per cent. Both before and after his time it was appallingly high, sometimes reaching to 20 per cent.

Holmes was conversant with all that White wrote and of the good results which followed the observance of his rules for the prevention of the disease in hospitals. He was, however, more concerned in driving home the facts proving its conveyance from person to person in ordinary practice. So after quoting White briefly he goes on to cite instances recorded in more recent English literature where puerperal fever followed the trail of certain practitioners and midwives whilst it did not occur in the practice of others in the same neighborhood.

Semmelweis, who almost certainly had never heard of Holmes and who, apparently, was not acquainted with the English or American literature on puerperal fever of the preceding 60 years, published in 1847 the results of his investigations. His work extended over several years, and was characterized by the most painstaking scientific accuracy. He began by noting that, while the mortality was 2.7 per cent in the Wards of the Hospital where nurses only were in attendance, it was as high as 11.4 per cent in those to which doctors and students were attached. He further noted that the mortality among patients treated in their own homes was much lower than that among hospital patients. He then found that the appearances in a person dying from septicemia, as the result of an autopsy wound, were the same as those present in women dying from puerperal fever. He came to the conclusion that puerperal fever was due to the introduction of cadaveric material into puerperal wounds and that the preponderance of cases among patients attended by students and doctors was due to their attendance in the dissecting room and at autopsies. Acting on this theory he insisted on careful washing of hands and the use of a solution of chloride of lime, as advocated years before by Charles White.

Administration of Morphive and Antispasmodics in Biliary Colic

(R. R. Best & J. H. Barr, Omaha, in Ann. Surg., Feb.)

A good working rule is to give morphine-atropine combination first in those individuals with an intact gallbladder, and then alternate the atropine with nitroglycerin every four hours. Morphine should be used on the four-hour intervals only as needed. This may be continued over several days.

For those patients whose gallbladder has been removed, the morphine-nitroglycerin combination is most apt to give relief. The nitroglycerin is then alternated with atropine every four hours for several days with the addition of morphine as necessary.

CLINICAL CHEMISTRY and MICROSCOPY

J. M. FEDER, M.D., Editor, Anderson, S. C.

THE CEPHALIN CHOLESTEROL TEST FOR LIVER DAMAGE (HANGER)

EVER SINCE HEVD published his first observation on "Liver Deaths" over twenty years ago, there has been a constant search for some method whereby our knowledge of the function of that organ could be increased. In 1938-39 Hanger developed a simple method. In a personal communication, the inventor of the test states, he has been using it at the Presbyterian Hospital (New York) since 1937 and finds it of much help to us to indicate an active inflammatory degeneration of the liver.

In our own service we have evaluated it along with a number of other tests on normal controls and in a few cases of known hepatic damage. In the course of these experiments it has been found that neither ordinary fever of short duration, nor cloudy, chylous serum has any effect upon the floculation—that is, that it does not cause a false positive.

TECHNIQUE OF TEST

Desiccated antigen is procurable from the Difco Laboratories, 920 Henry Street, Detroit. (At this time the cost is nominal, 85 cents for a single bottle or \$4.80 for six bottles, which should be a year's supply under ordinary circumstances.)

Preparation of the test antigen from the desiccated material

1. Add 5 c.c. of anesthetic ether per unit to dissolve the contents, and so make the stock ether antigen of Hanger, which is staple for months if kept tightly stoppered at icebox temperature.

2. The final test antigen is prepared by adding (slowly and with stirring) 1 c.c. of the stock ether antigen solution to 35 c.c. of distilled water warmed to 65 to 70° C. and then heating slowly to boiling. The mixture is allowed to simmer until the final volume is reduced to 30 c.c. During the heating, all coarse granular clumps should be dispersed, resulting in a stable, milky, translucent emulsion from which all traces of ether are driven off. The antigen is cooled to room temperature and then is ready for use.

The liquid emulsion, if properly prepared, is stable for many days, but comparable results can be expected only if it is prepared on the day it is to be used.

Caution: Traces of heavy metals or bacterial contamination in the antigen emulsion may give rise to erroneous positive flocculation. Performance of the Hanger Flocculation Test

Add 1 c.c. of the aqueous lipoid emulsion to a test-tube (preferably a centrifuge tube) containing 0.2 c.c. of the patient's serum diluted with 4 c.c. of normal (0.85%) saline. After thorough shaking and stoppering with cotton, allow the tube to stand at room temperature and note at the end of 24 and 48 hours the amount of flocculation and precipitation that has taken place. With normal human sera the emulsion remains as a stable homogeneous suspension; with sera from patients with diffuse hepatitis the lipoid material tends to flocculate and precipitate to the bottom of the tube. A 4 plus reaction indicates a complete precipitation leaving the supernatant liquid water-clear. Gradations of the reaction between negative and 4 plus are designated in terms of 1 plus, 2 plus, and 3 plus. No test should be regarded as negative until 48 hours have elapsed without floccula-

The Editor of this column would appreciate hearing from others who have had experience with this reaction. A summary of these will be published if sufficient interest is shown.

Anyone interested in the comparison of this liver-damage test with a number of others may well read the articles on the subject in the March 6th J. A. M. A.

WHAT MAY WE LEARN FROM LIVER FUNCTION TESTS?

THERE IS wide diversity of opinion as to the trustworthiness of any of the so-called tests of liver function which have been devised. All agree that they must be econsidered with circumspection, and as requiring strong supporting evidence from other witnesses if their testimony is to be given weight.

Yegge,¹ of Denver, discusses this matter in an informative manner. These conclusions of his are worthy of consideration.

The icterus index of the bilirubin in the blood plasma—normal 4 to 6; at 15 there is visible jaundice. The van den Bergh reaction differentiates hemolytic jaundice from jaundice caused by liver disease; both reactions may be present in very toxic jaundice.

The bromsulphalein test measures the protective and detoxifying action of the liver. It is a simple test in which a given amount of dye injected in the blood stream should be removed within 30 minutes if the liver is normal. In certain cases both the hippuric-acid and bromsulphaelin test should be done, but it is possible that in some of the cases of some very badly jaundiced patients the hippuric-acid test is more reliable.

Before surgery is attempted in acute gallbladder conditions that have caused inflammation of the liver, the bromsulphalein test should always be done. Cases in which there is a high retention, when allowed to subside until the liver function became almost normal, go through the operation successfully.

The Takata-Ara flocculation test on the blood serum is thought to be diagnostic in biliary cirrhosis, although it may be positive in other biliary diseases.

The cholesterol of the blood is usually increased in obstructive jaundice; in intrahepatic damage it is decreased. In portal cirrhosis and hemolytic jaundice the cholesterol usually remains normal.

In making a diagnosis of liver disease the most important procedure is first to get an accurate history, perform a thorough physical examination, make necessary x-ray pictures of the gallbladder aided by the dye test; take a cardiogram, if necessary, to rule out the presence of some cardiac condition; and examine the stomach by the gastric analysis and x-rays—all these before performing liver function tests.

The van den Bergh test is indirect in hemolytic jaundice; is direct in obstructive jaundice, carcinoma, hepatitis and may vary in cirrhosis.

To be of any great value liver function tests must be repeated and the findings compared with previous results if the proper interpretation is to be placed on them.

Rarely, developmental abnormalities and other complicating factors of foot strain require such treatments as manipulations under anesthesia, the wearing of plaster casts and operations.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., Editor, Greenville, N. C

WATCHMAN, WHAT OF THE NIGHT?

"ABOLISHING PRIVATE MEDICAL PRACTICE" is the title of an editorial in the August, 1943, number of Southern Medicine & Surgery.

"Shall It Happen Here" is the title of another editorial in the August number of the N. C. Medical Journal. Both of these editorials deal with the Wagner-Murray Senate Bill No. 1161, which bill, among other things, provides for an unprecedented appropriation for public medical care.

Southern Medicine & Surgery says: "This journal agrees with the National Physicians Committee for the Extension of Medical Service that it behoves us doctors to take some action to meet the situation. It doubts if it can agree on any details; for in its opinion the glorification of the specialist and of the hospital by the powers that be in medicine is largely responsible for the movement for medical care by taxation." The editor expresses the opinion that family doctors are entirely competent to care for 85 per cent of the illnesses of pa-

tients in their own home.

The N. C. Medical Journal says of the Wagner-Murray bill that it "represents the long-planned all-out attempt to establish socialism in the U. S." That the bill provides for "free medical and hospital service for virtually all employed people in the U. S." "It proposes placing in the hands of one man, the Surgeon General of the Public Health Service, full power to hire doctors and establish their rate of pay, to establish fee schedules, to establish qualifications for specialists; to determine the number of patients the doctor may serve; and to determine what hospitals or clinics may provide service for patients."

It is our opinion that abolishing private medical practice will materially lower the standard of medical service now furnished the average citizen. If private medical practice is abolished, naturally it will come about through machinery set up by the Federal Government as suggested by the quotation above from the editor of the N. C. Medical Jour-

This, in our opinion, brings all State Health Officers into the picture. For as experience has shown, the tendency of the Federal Government is to expand medical care (the treatment of disease as well as the prevention of disease) through the State Health Departments. This being true, it occurs to us that the State Health Officer, acting individually, and through his own national organization, should take the position that the public can best be served in the treatment of disease through the family physician-not through the health department personnel-recognizing the fact that the primary functions of a health department are: health education, immunization and sanitation.

And furthermore, if conditions warrant therapeutic clinics under the auspices of a local health department, these clinics should be conducted by a private practitioner.

It is our opinion that the State Health Officer is the key man in this whole proposed program, and has it within his power, more than any other person, to determine the Federal policy as to the expansion of public medical care.

Watchman, What of the Night?

OBSTETRIC and PEDIATRIC CARE FOR WIVES AND BABIES OF ENLISTED MEN IN THE ARMED FORCES

MEDICAL DOCTORS generally have been notified that Congress has passed legislation appropriating funds to provide obstetric care for wives of enlisted men in the armed forces, also provision was made for some care for babies (under one year of age) of these men.

Mention here of a few of the rules necesary for

the administration of this program should be of interest to readers of Southern Medicine & Surgery.

1. The United States Children's Bureau of the Department of Labor is the federal agency charged with the responsibility for administration.

2. The State agency is the Maternal and Child Health Service of the State Board of Health, through which agency the money for the service is expended.

3. All wives and infants (under 1 year of age) of enlisted men in the 4th, 5th, 6th and 7th grades are eligible.

4. Only those wives and infants (under 1 year of age) of enlisted men in the 1st, 2nd and 3rd grades are eligible, who can show that they really need assistance. Each such application must be accompanied by a signed statement of need from the patient.

5. The name, rank and serial number of the husband or father must appear on each authorization request.

6. Applications for maternity care should be sent in at the time of the patient's first visit to her attending physician.

7. Maternity cases, first seen by a physician at the time of delivery, may be accepted as emergency cases if the application is sent to the Health Office within 24 hours after delivery.

8. Only prenatal visits or other services, given after date the case is authorized, may be paid for by the state agency. Services given before the date of authorization may be paid for by the patient or some other agency.

9. Physicians and hospitals must accept the fee paid by the state agency as complete payment for all services authorized by this agency, and may not accept any fee from the patient or anyone else in her behalf.

10. Obstetric care blanks must not be sent in until after the physician gives the patient the routine 4 to 6 weeks postpartum checkup.

11. Hospital bills will be paid without waiting for the physician's obstetric care blank.

12. The state agency cannot pay any hospital bill unles the hospital is participating in this program.

13. No hospital bill may be paid unless the attending physician is also participating in this program.

14. Pediatric care may be given for children under one year of age only.

15. At present, only pediatric cases treated in a participating hospital may be accepted. (Arrangements will be made if possible to provide for payment for office and home visits, etc.)

16. Authorization requests for pediatric cases must be sent to the local health officer within 24

hours after admission of the case to the hospital.

- 17. Participating hospitals are paid at the rate of their calculated ward cost rate, whatever this is calculated to be.
- 18. The state agency cannot pay physician's fees for any patient, cared for in a hospital, whose case cannot be approved for participation in this program. (This applies to future cases. Obligations already assumed will be met.)
- 19. A fee schedule set up by an advisory group of physicians acting with the officials of the State Board of Health provides payment for these services

SCHEDULE OF FEES

- For non-operative consultations, a fee of \$5.00 for office or hospital consultation may be paid, and \$10.00 for a home consultation or a consultation involving travel. These fees apply to surgical, obstetric, pediatric and other medical consultations.
- 2. An operative fee of \$45.00 may be paid to qualified consultants for major obstetric surgery and pediatric surgery.
- 3. No additional consultation fee may be paid to an obstetric consultant for a vaginal delivery, other than that covered by No. 1.
- 4. Qualification as consultants: Specialists who are certified by their respective American Boards, or whose training and experience meets the requirements of such Boards shall be designated as consultants. Physicians who have had not less than one year of graduate training in their specialty and at least one year's experience in that specialty may be also designated as consultants. Consultant fees cannot be paid to any physician unless his qualifications are as stated above.
- 5. When a physician accepts a case under this program, additional payment for complications or for surgical treatment cannot be made to him, although those additional fees may be paid when necessary to another consulting physician if he qualifies as a consultant.

	General Practitioner	Specialist
Delivery with less than five pre- natal visits and postpartum		
care	\$25.00	\$33.00
Delivery with five or more pre-		
natal visits and postpartum care	35.00	45.00
Prenatal care only-per visit	2.00	2.50
Maximum per case	10.00	12.50
Pediatric care (hospital cases only)		
For each hospital way	2.00	2.50
Maximum for the first week	10.00	12.50
Maximum for the second week	8.00	10.00
Maximum for the third week	5.00	6.50
Maximum for entire case	23.00	29.00
These fees are effective for cases au	thorized on	and after

These fees are effective for cases authorized on and after July 1, 1943.

These fees paid to the physicians must be taken as complete payment for the case, and no fees may be accepted from the patient, or other agency, as a supplement.

- 20. All hospitals in North Carolina will be gladly considered for participation in this program if they will make application to—
-G. M. COOPER, M.D., State Board of Health, Raleigh, N. C.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M. D., Editor, Charleston, S. C.

A CASE OF CAVERNOUS SINUS THROMBO-SIS FROM PICKING PIMPLE WITH RECOVERY

ALL OF US know the dangers of picking, squeezing or scratching pimples about the nose or upper lip. Not so generally known is the danger of molesting pimples elsewhere on the face.

From "Down Under" comes a warning case report:1

A healthy woman, 30, developed a pimple an inch in front of her left ear; picked it Nov. 29th. Dec. 1st she had an "attack of the shivers," On 4th face swollen, cold all day; 5th admitted to hospital oedematous from l. ear across forehead, l. upper eyelid swollen and reddened; l. eye slightly more prominent than r., t. (7 p. m.) 102, p. 104. Continuous foments to face and Proseptasine one gram p. 4 h. Dec. 6th sulfadiazine tablets replaced the Proseptasine one gram at noon, two at 2 p. m., one at 4 p. m. and then one q. 4 h. At this time the patient complained of stiffness of the back of the neck; ichthyol in glycerine and foments were applied continually. On the 7th l. eyelid was swollen and dusky, the eye proptosed; on the 8th swelling greater; on the 9th sulfathiazole replaced sulfadiazine-one gram q. 4 h. as before. On 10th a small incision in 1. eyelid obtained a small amount of pus (S. aureus on culture), r. upper eyelid beginning to swell, max. t. 104, p. 120.

On the 11th pronounced ptosis, I. u. eyelid and it dusky red. By forcibly holding the lids apart she was able to count fingers with this eye. Pupil moderate in size and reacted to light and she was able to move the eye in any direction. Engorgement of the retinal veins, outlines disk ill-defined. Diagnosis of cavernous sinus thrombosis, prognosis grave. At this time the original pimple had disappeared.

The patient was nauseated, sulfapyridine soluble one ampoule injected intramuscularly at noon and at 4 p. m., 8 p. m., sulfapyridine three tablets q. 4 h., was begun. On 12th max. t. 100; on 13th the dosage of sulfapyridine was reduced to two tablets q. 4 h., swelling r. eyelid decreased; 14th t. 101, sulfapyridine increased to three tablets every four hours. At this stage red cells 3,500,000; haem. 58%, leu. 7,200; sulf. continued until 16th when red cells were 2,750,000, leu. 11,000, haem. 52%. Transfusion of 12 oz. blood was followed immediately by t. of 102; on 17th and 18th rapid improvement and t. subsided almost to normal. Sulf. one tablet q. 4 h. until 24th, then suspended.

^{1.} P. H. Doyle, Kyogle, New South Wales, in Med. Jl. of Australia, April..

Recently several cases of cavernous sinus thrombosis with recovery are reported. It would appear that prior to the advent of the sulfonamides the condition was uniformly fatal.

LOCAL USE OF SULFATHIAZOLE POWDER FOR ACUTE PHARYNGEAL INFECTIONS

(M. S. Freeman, Cleveland, in Arch. Otolaryng., Apr.)

Sulfathiazole powder was applied to the pharyngeal mucosa with a powder syringe through the nose or with a shortened Eustachian tube catheter placed behind the soft palate until it thickly caked the involved areas. The dose varied between 1 and 2 Gm. per treatment. Much of this was lost by expectoration, but examination at one-, two-, three- and four-hour intervals following treatment revealed a surprisingly large amount of the powder clinging to the nasopharyngeal and pharyngeal mucosa, in the vallecula and in the crypts of the tonsils. The patients were instruced not to eat or drink for two hours following treatment and were told to use no other form of therapy.

Subjective improvement was noted in an average of 10 hours. From one to four treatments at 24-hour intervals were required, with an average of 2.2 treatments. The duration of the disease after treatment was instituted varied between one and three days.

HOSPITALS

R. B. DAVIS, M.D., Editor, Greensboro, N. C.

HOSPITALS ACT NOW!

FOR THE LAST 10 YEARS or more hospitals all over the United States have been urged to close their Training Schools. The nursing profession has blindly followed the few who govern the Standardization Boards until the deplorable condition of nurse shortage has developed.

The sanest governing factor for the American people is that of supply-and-demand. This will right the situation when political, military and even religious influences fail. It is this supply-and-demand that has brought relief to the hospitals during this crisis.

The Congress of the United States has recognized that the only satisfactory plan for educating a young woman to become a nurse is to put Training Schools for Nurses in as many hospitals as they possibly can in the United States. To do this in as short a time as possible it has become necessary to give financial aid to those hospitals whose training school equipment has been allowed to deteriorate as a result of the Standardization Board closing that department of the hospital.

The Bolton Act divides the responsibility of nurses' education between the Government, the hospital, and the students. In this emergency it is well that the Government step in, because more well that the Government step in, because the Government requires more graduate nurses than ever before, more perhaps than the civilian population can get along with. However, a word of warning to the hospital is not here amiss. Experience has proven

that where the Government furnishes financial aid it invariably takes political control to a greater or less extent. Also, the Standardization Boards will reluctantly relinquish their control and therefore we see injected into this bill, if the writer's information is correct, a clause which states that the nurse who graduates from one of these cadet schools is qualified for licensure or for certification to practice as registered nurse only in the *state* in which the particular nursing school is located.

The bill provides that the student nurse shall become a member of the United States Reserve Nurse Corps at the time of her entrance. The first 9-months period is known as a precadet period. The second period of 15 to 21 months, according to whether the school is giving a 24-month or a 30-month course, is the junior cadet period; and the third period, from the end of the 24th or 30th month to graduation, is the senior cadet period. The diadactic work can be completed in some schools in 24 months and in others it takes 30 months. The period of time after the completion of the diadactic work, up to 36-months, is the senior cadet period. When the student nurse graduates, she is automatically transferred to the active service and remains there for the duration and 6 months thereafter at the pleasure of the President.

For a Training School to participate in this program, the requirements are many but not too prohibitive. It must be accredited by the organization of the state in which it is located, and by the American College of Surgeons or its equivalent. It must accept only high school graduates, provide adequate clinical material and healthy living quarters: and advance complete maintenance and a stipend of \$15 per month for the precadet period, \$20 per month for the junior cadet period, tuition and fees in a reasonable amount to be brought up by the Surgeon General's office. All of these advances will be reimbursed to the hospital by the Federal Government, but the senior cadet stipend of \$30 per month must be paid by the school where she is serving.

This all sums up to the fact that the Federal Government is aiding to a considerable amount in the education of a nurse. Unless the hospitals are careful they will become too dependent upon the Federal aid and by so doing have to submit to political control.

THE TREATMENT OF ANGINA PECTORIS WITH TESTOSTERONE PROPIONATE

(M. A. Lesser, Boston, in New England Jl. of Med., Feb. 11th)

The drug was administered every second to fifth day in 25-mg, doses for a total of 5-25 injections.

In this study, 22 patients with angina pectoris were given testosterone propionate. Four patients were studied by means of exercise-tolerance tests before and during the course of therapy. In each of these the amount of exercise before the development of an anginal attack was markedly increased and the severity of the attack as measured by the duration of the pain was correspondingly diminished.

It does not give immediately relief from an anginal attack as does nitroglycerin. Some patients in this series showed improvement after the second or third injection, but in others, no improvement was noted until the eighth, ninth or tenth injection. An average of 28 days elapsed before quantitative improvement was noted and a period of 43 days elapsed before this improvement became marked. The shortest period of benefit was two months, whereas the longest period that a patient has been free of anginal attacks is 18 months. Those patients who have returned for further treatment because of recurrence of pain reported that their attacks were less severe than originally and fewer injections were necessary to control them.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

SPONTANEOUS INTRAPERITONEAL HEMORRHAGE COMPLICATING PRIMARY CARCINOMA OF THE LIVER

A WHITE MAN, 65, enters the hospital with a mass in the right upper quadrant of the abdomen which gives much the appearance of the right lobe of the liver. It is smooth, regular in outline and is not tender. Over several months he has lost 30 pounds in weight. On exploration the great omentum is found spread over the entire upper surface of the soft, symmetrically enlarged liver and extending under the dome of the diaphragm to the suspensory ligament. The omentum is adherent to the liver but in places has been separated from the surface by collections of extravasated blood and there are massive blood clots in the upper peritoneal cavity. There are a few small secondary cancer nodules over the surface of the left lobe of the liver which is not enlarged.

Primary cancer of the liver is rare. Secondary cancer is fairly common. Boyd describes two principal forms of primary cancer—the hepatoma or liver-cell carcinoma, and the cholangioma of bileduct carcinoma. Hepatoma often follows hepatic cirrhosis. There may be a massive involvement of the liver as in the case reported, or the cancer may occur as nodules scattered throughout the liver. In both forms of the disease the masses are soft and medullary, with a decided tendency to break down and bleed.

Over the years the writer has explored many cases of cancer of the liver but he does not recall ever before having seen intraperitoneal hemorrhage complicating the condition. Ziegler, Adami and the older pathologists do not mention the complication. This case is briefly reported that our readers may know that primary cancer of the liver is a possible cause of spontaneous intraperitoneal hemorrhage.

In distinction from hepatoma, in cholangioma

the cell structure is that of an adenocarcinoma and the massive solitary form of tumor does not occur. Jaundice is apt to be a feature of the condition.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M. D., Editor, Greenville, S. C.

SEVERE BACTERIAL ENDOCARDITIS ARRESTED

The case reported¹ is that of a 28-year-old white woman admitted Jan. 24th with a left hemiplegia and severe headache. For ½ months she had had weight loss, night sweats, weakness, malaise, anorexia, nausea and vomiting; early in the course, pain, swelling, tenderness, weakness in the left leg, and weakness of both arms which had subsequently subsided. Two days prior to admission, occipital headache radiating down the back of the neck and for 24 hours repeated shaking chills.

She had dyspnea on exertion most of her life; had also experienced ankle edema and palpitation. At 19 her only attack of polyarticular rheumatism.

She had been in this hospital two years ago on the gynecology service and at that time rheumatic heart disease with aortic insufficiency and mitral stenosis were noted. At that time the blood Kahn was positive.

She was now emaciated and cachectic, skin darkly pigmented, left hemiparesis—almost complete; neck stiff; petechiae in the conjunctival sac and a hemorrhage in the retina of one eye. Pulse of Corrigan type, heart enlarged to the left, murmurs of aortic insufficiency and mitral stenosis. Lumbar puncture, which was considered non-traumatic, yielded spinal fluid which was grossly bloody.

Diagnoses: Subacute bacterial endocarditis
Rheumatic heart disease
Ruptured mycotic aneurysm of the

Blood cultures were positive for streptococcus viridans on the 5th, 6th and 8th day of February.

right middle cerebral artery.

For six days 6 grams of sulfadiazine a day; on the 14th, after ascertaining adequate renal function, she was given 25 grams of sodium sulfadiazine by vein. For the first few days there was some nausea, vomiting, hematuria and oliguria. An initial blood level of 57 mg. per cent was attained. Practically all of the drug was excreted in 11 days. The blood urea nitrogen rose to 104 mg. per cent. Three days after the massive dose culture was again positive. The hemiparesis improved rapidly.

On March 3rd petechiae were again noted in the conjunctivae. On March 10th embolic occlusion

^{1.} C. F. Vilter, Cincinnati, in Cinn. Jl. of Mcd., July.

of the left femoral artery occurred, and responded well to Pavex therapy. That same day, however, the blood culture again was positive for streptococcus viridans.

The following day, March 11th, a new course of sulfathiazole and urea was begun, continued for 37 days and terminated only by the patient signing her release from the hospital. Urea, at first 24 grams, was rapidly increased to 150 grams a day, in five doses. Blood urea nitrogen levels reached 85 mg. per cent.

During this combined therapy for over a month, blood cultures remained negative. Two cultures one week and two three weeks after cessation of treatment were negative.

In this period the patient recovered her appetite, gained in weight and strength and wellbeing. Fever had ranged from 99 to 102, subsided in first week of this therapy and did not recur.

The patient has not been observed long enough to consider the disease arrested, but results are very encouraging in view of the fact that this patient was apparently in the last stages of the disease when therapy was begun.

The early diagnosis is to be made on a high degree of suspicion of any individual with rheumatic valvulitis, congenital heart disease, or even luetic valvulitis. Libman and Christian both say that since the onset of the disease is so insidious, any such patient with previous valvular deformity who has the vague symptoms of malaise, feverishness, sweats and anorexia, and whose symptoms persist for more than a week, should be considered as having subacute bacterial endocarditis until proven otherwise.

TREATMENT OF THE HYPERTENSIVE PATIENT IN THE PRECARDIAC STAGE

THE HYPERTENSIVE PATIENT WE have always with us and he wants us to do something for him. Here1 is instruction in how to do most for him and give him the convinction that he is being given proper care, without faking him in any way and without wasting his money on profitless drugs, resorts or operations.

Nothing should be used that makes the hypertensive patient more uncomfortable; e.g.-as the restriction of proteins or salt in the diet; nor any drug used having toxic manifestations (sulfocyanates); and nothing should be employed which is time-consuming or expensive (so-called specific surgery). The hypertensive patient will sacrifice a great deal to obtain the therapy while imbued with hope for permanent relief. No such therapy exists at the present time.

Freedom from excitement, moderation in mental and physical exertion, the very moderate use or

abstinence from tobacco, the taking of only so much food as will barely satisfy appetite, nine to ten hours in bed each night and a half-hour on the couch daily after lunch—these are the essentials of management.

Attention should be directed away from the blood pressure; and the symptoms may be relieved by simple means without any change in the blood

In a small number of hypertensive patients the b. p. may return to normal, and the symptoms disappear, permanently or for a prolonged period of time. In a larger number there is subjective improvement with some lowering of the b. p. In the largest group the pressure is not lowered much, if at all, but the symptoms are relieved and the patients are comfortable.

The symptoms of uncomplicated essential hypertension are in many cases relieved by the suggestion inherent in any seriously and enthusiastically prescribed drug or method of therapy.

By simply giving the patient a quiet, noncritical, sympathetic audience, many symptoms can at least be relieved. It is best to make no reference to the degree of hypertension, its potential dangers, or its complications. Many patients need only a good friend with whom they can discuss their troubles. A little time, not much, and an unhurried physical examination each visit, with a critical eye on the size of the heart especially, are more assuring to a hypertensive than a noneffective drug. In most cases a mild sedative and a mild laxative are

When the unpreventable and unpredictable episodes of congestive heart failure, cerebral hemorrhage, coronary thrombosis or uremia, occur in hypertensive patients, one's best is not good enough at times. Physicians are getting hypertensive patients, except the uremics, back to health far more often than ever before, and with rational care many of them live out their normal span of life despite the essential hypertension.

THE IMPORTANCE OF WHEEZE IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

J. S. Packard, Allenwood, in Penn. Med. Jl., July) Chronic wheezing is a rather common and frequently early symptoms of importance in the diagnosis of pulmonary tuberculosis. Chronic wheezing often delays the diagnosis of tuberculosis, since the symptom usually is attributed to other causes. In all but one of the seven cases presented the true diagnosis was delayed for from five months to six years.

Wheezing, like hymoptysis, is easily noticed by the individual and his family. These patients often come to the doctor soon after the onset of symptoms, and thus present an opportunity for early diagnosis.

When chronic wheezing is present in women, tuberculo-

sis is the first disease to be ruled out. In contrast to its inefficiency in early parenchymal lesions, the stethoscope is of value in localizing early tuber-

culous tracheo-bronchitis.

^{1.} N. Flaxman, Chicago, in Amer. II. Med. Sciences, May.

CLINIC

Conducted by
FREDERICK R. TAYLOR, B.S., M.D., F.A.C P.,
High Point, N. C.

ON DECEMBER 18th, 1937, a 17-year-old boy consulted me. As a baby, he had seemed normal until he began to try to walk, when it was noticed that he would walk on his toes and tended to fall forwards. This would make him walk very fast. He usually stopped himself by taking hold of something. A physician thought he would outgrow it. He was delivered with forceps, and his eyes were swollen shut for a week. Otherwise nothing abnormal was noted at that time. He largely outgrew his difficulty in walking, there remaining only a little stiffness in his lower extremities. He later walked to school, rode a bicycle, etc., without trouble. Nothing was known about his knee-jerks then. In childhood (age should have been noted), he fell off the running-board of a truck, striking his head against a curb, and was unconscious for a few minutes and felt sick at his stomach after that. He was taken to the office of the company to which the truck belonged, from there to his home, and from there to a doctor's office. The doctor said he had a slight concussion, but did not think it amounted to anything. Six months after this he began to get sick headaches and was subject to them for 3 or 4 years. He improved after going to two chiropractors successively. However, the stiffness in his legs was gradually progressive from the time it was first noticed. No sudden change in this was noticed after his head injury-it did not seem to affect the condition at all. Five years before he consulted me (at the age of 12), his left foot began to "draw" and got worse for a year. An orthopedist operated on his foot and ankle and straightened two toes. A neurologist examined him later and wanted to do a lumbar puncture, but this was in Charlotte, and they went over for only one day, so it was not done. This was a few months after the orthopedic operation, which did not help much. For the past two years he had got worse much more rapidly, now rather severely crippled. The muscles of his legs, thighs and back were all stiff at the time of my examination, and tended to "draw." · Fourteen months before I saw him he went to Duke where he was given a powder to try to build up his muscles (aminoacetic acid?). He was asked to come back and stay a week for a diagnostic study. He did go back, but said that the doctor ' out him off and gave him more medicine and didn't seem to want to work on him and sent him back home two or three times. doctor was more of a psychiatrist than a neurologist, and I should have liked Dr. R. W. Graves to have seen him, but Dr. Graves was not consulted. The boy had been especially badly affected for 3 days before coming to me, and his muscles felt weak and sore. The left big toe was drawn badly, and his back hurt. The patient said he always got worse in his muscles whenever he would catch a cold; he tired easily and got short of breath. His feet never swelled. He had many falls due to his legs giving way. There was little else in his history of importance. He averaged 3 or 4 coca-colas daily. He drank an occasional beer, no whiskey. It was hard for him to get to sleep, but he was also hard to wake. He did not use hypnotic drugs. The family history was entirely negative.

He was slightly underweight, had normal t., p., r. and b.-p.; was extremely round-shouldered and carried his head far forwards; had a peculiar, waddling gait with lateral swaying of the hips. His pupils were dilated, but reacted promptly to light and accommodation. He had extreme acne vulgaris of the face and back. His cranial nerves seemed normal. He had some tendency to kyphosis and there was a suggestion of pseudohypertrophy of the supraspinatus muscles. His chest showed a Harrison's groove. From lying on the floor he got up by the method typical of progressive muscular dystrophy-"climbing up himself." The middle toe of each foot was a hammer-toe, and had become so recently. The second toes showed deviation of the distal phalanges to the outer sides. The plantar muscles were rigid, the knee-jerks absent. There was no ankle clonus. On testing for a Babinski reflex, the toes did not move in either direction. I was unable to elicit abdominal or biceps reflexes. There was no marked pseudohypertrophy of any of his muscles.

The diagnosis in this case appeared to be progressive muscular dystrophy of the Leyden-Möbius type.

There are 4 main clinical forms of the disease recognized today, as follows:

1. The Pseudohypertrophic Type of Duchenne. In this type the muscles appear larger than normal, but are weak, as it is not true muscular hypertrophy as a rule, but a fatty infiltration. This type is very likely to be familial.

 The Facio-scapulo-humeral Type of Landouzy-Dejerine. In this the face is affected first and eventually the development of winged scapulae and marked involvement of the shoulder girdle.

3. Barnes's Type, beginning with a true muscular hypertrophy and showing the "infant Hercules" characteristics, a familial type.

4. The Thigh Muscle Type of Leyden, Möbius and Zimmerlin. Here the disease starts in the extensors of the thighs and later produces a typical "wasp-waist."

The condition is to be differentiated from the progressive central muscular atrophies, in which weakness precedes atrophy and fibrillary contractions occur.

The prognosis is bad. Epinephrin and ephedrin have been advocated in treatment. Prostigmin does no good, according to Christian.

OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

DOCTOR FRANK L. SHARPE

IN PAYING TRIBUTE to a doctor who has passed on it is difficult to even mention his many virtues, his great accomplishment. Doctors are a modest people. They look upon the herculean task of medical practice without hesitation and they accept its labors and its cares as commonplace. In fact, people generally regard the accomplishments of doctors as matters of course unless they involve something new and spectacular.

The majority of people deeply appreciate the services rendered by their doctor, but many who pay the fees charged regard their relationship even with their doctors as on a *quid pro quo* basis, and not a few assume that the doctor's virtue should be its own reward.

Most of the great accomplishments of all time have been made possible by progress in medicine and its basic sciences. Had it not been for the work of Gorgas and his fellow-doctors the Panama Canal project could not have been carried through.

The construction of tunnels deep underground, often going under rivers, the medical profession made possible by working out a method by which men after working under high pressure could be gradually restored to normal air pressure and the dangers of sudden pressure changes averted.

In the selection and the prevention of disease among soldiers, the selection and handling of food so as to prevent the spread of disease, the destruction of insect disease vectors, the prevention and cure of venereal diseases, doctors have rendered invaluable service to the fighting forces. A bulwark of humanity, medicine has as its highest aim the elimination of the very cause for its own existence. It is the only altruistic profession existing on earth today. In this great work the bedside doctor and the research doctor constitute a team. Each is indispensable. Each is equally important, each entitled to equal honor. The great lengthening of the span of life has been brought about by this team-work, the bedside doctor in every field of medicine and surgery using the weapons forged for their hands by the research doctors, many of whom are clinicians also.

Throughout his professional life the doctor is

busly engaged making this life easier for his fellowman, in prolonging life, preventing sickness, promoting public health—doing everything possible for the good of the human race.

Frank Louis Sharpe was born September 23rd, 1867, and reared at Statesville, a son of Colonel S. A. Sharpe, who was one of the best and most substantial citizens of Iredell, with a distinguished record as a braye and gallant officer.

Frank Sharpe was a man large of stature, strong and rugged, honest, honorable and generous to a fault; a good doctor, a hard and willing worker—he never refused a call no matter how poor the patient; he was always at the service of his fellowman. His good deeds, never mentioned by him, were passed over as part of the day's work; but there lives in the minds of those who knew him, particularly his patients, the recollection of innumerable kind deeds. In attending the unfortunate he often bought needed medicines, food and fuel; and he made more calls in his anxiety to see that the unfortunate were cared for, and in those cases there could be no suspicion of running up expense unnecessarily.

I have never known any man who was more honorable. He was frank and sincere, fearless, honest—descended from a long line of ancestors noted for their uprightness and integrity. There was no sham, no hypocrisy. His loyalty and devotion to his friends and to the ethics and principles of life inside and outside his profession were a shining light. In this world of sham and deceit, double-crossing and double-dealing, Dr. Sharpe stood out as an example of the highest type of faithfulness to the finest traditions. Though all the world had turned against one of his friends he would have stood to that friend all the closer.

Like most really great men, he was strong in his likes and, to some extent, in his dislikes. He was steadfast in his friendships. He never, by thought, word or deed, let a friend down. Behind a screen of banter and humor there were a kind heart, a keen mind, a sense of loyalty and devotion to his profession and to his patients, and a long record of great service to humanity which deserves far more than honorable mention.

For many years he kept horses available for those trips where a car could not go. He was a great horseman, enjoyed driving horses. He has told me that one good thing about the horse and buggy was that after working all day and perhaps all night he could go to sleep sitting in the buggy and his horse would carry him safe home.

After a long life of usefulness Dr. Sharpe became unable to get about and the last few years of his life were passed as an invalid in his home.

The mention of his name to any of his former patients elicits the fact that the memory of Dr.

Sharpe is green in their minds. In the hearts of those who knew him best is his grandest monument. In time the record of his kind deeds, his invaluable services will be woven into the warp and woof of the noblest of our Iredell traditions.

The death of Dr. Sharpe makes a vacancy in the community which cannot be filled. The multitude of patients to whom he ministered so long and so faithfully miss him sorely. One can never think of any place where life has been full and happy without remembering that some doctor or doctors have played a great part in making that place or community a place in which life could go along smoothly, joyously, and with the minimum of sickness, and remembering that the medical profession, of which Dr. Sharpe was a worthy and honorable member, has been a tremendous factor in making most of these things possible.

The writer has a deep feeling that Dr. Frank Sharpe did not have to knock at The Gate, but that good Saint Peter saw him afar off and went out to meet him with the greeting, "well done—thou good and faithful servant."

-J. W. DAVIS.

GENERAL PRACTICE

ROCKY MOUNTAIN SPOTTED FEVER

We have always thought in these parts that an application of kerosene, before or after going into the woods or pastures, would thoroughly discourage ticks; and that a bit of tobacco juice from a well-chewed quid would make 'em turn loose. Apparently the Wyoming tick is a Nazi, ours a Fascist.

And Dr. Baker¹ makes no mention of the idea, which is frequently stated as a fact, that, immediately the tick/ticks is/are removed in toto, all danger is past.

Dr. Baker is right in the middle of the tickfever country, and cases occur along the Atlantic seaboard in number sufficient to warrant what he has to say on the subject being passed along.

The incubation period is 4 to 8 days, extremes 1 to 12.

Those entering infested localities should wear trousers, gathered by some means at the bottoms, and pass the hand occasionally over the back of the neck in order to detect crawling ticks. Clothing should be removed two or three times a day and the body thoroughly examined for crawling or attached ticks. Camps should be located where there is no low grass, sagebrush or small bushes—among standing timber. Persons must again inspect their persons, clothing and bedding before retiring.

1. G. E. Baker, Caser, Wyo., in Il. A. M. A., July 24th.

When located, attached ticks must be removed without delay. As a rule the head of the tick is embedded so that hasty plucking often removes the body alone, leaving the remainder to serve as a source of infection. Gentle traction may be successful in removing the tick. Close inspection then reveals it to be intact, often with a small fragment of epidermis caught in the mouth parts. Failing in the procedure, a small piece of epidermis in which the tick's head lies embedded must be elevated with a pair of tweezers and a tent-like wedge of tissue snipped with a fine pair of scissors. Resultant wounds from tick extraction by any means are to be thoroughly cauterized by means of phenol, silver nitrate, or iodine. Care must be exercised so as not to crush ticks. If this occurs, the discharged contents should be thoroughly washed from the hands by soap and water, with care not to irritate the skin. The virus is apt to be highly infectious, even on unabraded skin surfaces. Removal of engorged ticks with bare hands is a dangerous practice.

Neoarsphenamine, 0.3 Gm., dissolved in 10 c.c. of an aqueous 1:1000 metaphen solution, a yellow and turbid mixture, is warmed and injected slowly by vein. This solution is administered and blood withdrawn alternately into the syringe until the entire amount has been given. The procedure usually consumes a period of five to 10 minutes. No reactions, local or constitutional, immediate or delayed, have thus far been observed.

Administration of the two drugs is repeated at three- to four-day intervals. Three or four injections have been sufficient. Continued or recurrent manifestations would justify additional administration.

Should a case of the disease demonstrate severe renal injury as a result of the infection, careful consideration must then be given to the question as to whether or not their use is justified.

Rocky Mountain spotted fever (tick fever) is widespread over the country. It has possibilities for far greater dissemination, so is a disease of serious potentialities. The clinical picture is fairly typical. There is a possibility of confusion with other disease states. Infection may be prevented by simple precautions and the use of tick fever vaccine. Treatment is essentially symptomatic and supportive. Neoarsphenamine dissolved in aqueous metaphen solution has been used intravenously as an adjunct to treatment. Satisfactory results have been obtained in a number of cases so treated over a period of the past eight years.

BILATERAL ORCHHICTOMY is the method of choice as a basic treatment in advanced or metastic prostate cancer.—C. B. Huggins, Chicago, in Penn. Med. Jl., July.

SOUTHERN MEDICINE & SURGERY

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STERILIZE EVERY GERMAN AND JAPANESE

JUSTICE is a far nobler virtue than mercy. Indeed, as between nations and peoples, what passes for mercy is not a virtue; for no one nation or people can be given more than justice without depriving another nation or people of their full measure of justice; *i.e.*, doing them an injustice.

Right is nothing more nor less than the largest

expediency.

Nearly two thousand years ago uncivilized Germans destroyed the civilization of that time, and plunged the world into the many centuries of ignorance and degradation known to us as the Dark Ages. Division of the Germans into petty states made possible emergence from the darkness. Nearly a hundred years ago, a great number of the petty German states having been consolidated by force into a Kingdom of Prussia, the German Empire was formed, with Prussia as its nucleus and master.

From that time to now the mainspring of German existence has been the enslavement of the rest of the world. This was not the birth of a new idea. It was the awakening of an idea which actuated the Germanic tribes at the dawn of history (see Tacitus), and which had lain dormant during the period of their impotency.

Not all the Germans had this ambition. Of course not; but those who did not left Germany to live in a different atmosphere. From those who left came the ancestors of General Pershing, General Eisenhower and General Spaatz and a lot of our best friends in and out of the armed service.

But those who stayed in Germany, from bottom to top, have drawn in with their mothers' milk and been instructed daily in home and school—everywhere—in the belief and the joyful expectation that there would come "der tag" when every Germany would be a military or civilian professional man, every non-German a common laborer; when no non-German would be allowed to be educated beyond grammar grades and manual training; when every non-German meeting a German would step, cap in hand, or be kicked, into the gutter; when the wives and daughters of non-Germans would be ravished by Germans and be fully expected to accept this attention from members of "the master race" as an honor.

We fought World War I to make the world a place fit and safe to live in. The United States Senate (senator and senility come from the same root) threw away the fruits of victory, and made possible the present slaughter. The Treaty of Versailles was an unjust treaty. It was unjustly generous to the German and Austrian robbers,

arsonists and sadistic murders who brought on the war. It was unjustly niggardly to the allies who had, by a narrow squeak and after suffering terrible losses, been able to bring these arrogant and unrepentant devils to their knees.

Our own killed and missing in the present war number, to date, about a hundred thousand. Our allies have lost many millions. The Germans and the Japanese have shown the greatest love of torture for torture's sake that the world has seen for a thousand years. Young wives and daughters in all the occupied countries have been forced, wholesale, into bawdy houses, especial care being taken to select as many as possible of those of the highest culture, rank and education.

From rostum, pulpit, radio and newspapers we are being warned of the probability of the peoples now fighting against these fiends falling apart after the war is won. No one with any knowledge of history or experience of human nature should need be told of this self-evident fact. We have schools over the country, one at the University of Virginia, for the sole purpose of teaching civil administration of Axis countries when the war is over. Our political leaders tell us a large army will have to be maintained in the conquered countries for "a long time." Over the radio a week ago an archbishop told his listeners that all of us should remember that as soon as an enemy is captured he is no longer an enemy. With all respect to the reverend gentleman, an Axis or Japanese soldier is your enemy as long as he has breath in him; and the Germans and Japanese at home-men, women and children-are just as much your enemies, and enemies of everything dear to you, everything that makes life worth living. They have just the kind of leaders they want. To attempt to excuse the German and Japanese peoples as being misled and imposed upon by a clique or party is arrant nonsense.

There is only one just, sensible, humane, practicable way of preventing Germans and Japanese from starting another and bigger war of world conquest in another quarter century.

Sterilize every man, woman and child of them.

The desire to procreate on the part of human being is not by any means universal. Witness the great number of unmarried persons, and the great number of childless (after allowing for the involuntarily childless) couples. The Germans and Japanese are known the world over as the least affectionate of parents. Their desire for children is a perversion of all natural feeling. They proclaim in one breath that they are overcrowded and must conquer other lands in order to have breathing-space; and in the next encourage in every possible way reproduction on the scale of rabbits and guinea pigs.

What for? They are frank about their fiendishness. So as to have enough Germans and Japanese to make slaves of all other peoples.

All my life I have resented and refused to join in, the sordid, selfish prayer, "Give peace in our time, O Lord." If war must come in my time, or in the time of my children and grandchildren, let war come on me; not on those for whose existence I am responsible, and for whose good and happiness I covenanted to do my utmost best.

Sterilization is not only the sole means of solving this, the greatest, problem before the world: it is the perfect solution. To hang, draw and quarter every German and Japanese would be a good solution, but silly sentimentality makes it out of the question; and it would not be a perfect solution.

Even Hitler should not be executed. He and all his tribe, male and female, and every Japanese should have their seed exposed to the x-rays for a few seconds, this repeated once or twice at intervals of a few days, and then allowed to live as long as they may in the full knowledge that in the course of a hundred years the last member of the "master race" would have gone to join their master the Devil. I would not begrudge them the lively and reasonable hope that the Devil and his legions would abdicate in favor of newcomers far more expert and practiced in hellishness.

Sterilization of every German and Japanese man, woman and child would be no crime against nature. German and Japanese children are begot, nourished, trained to be—not beasts or brutes; beasts and brutes are decent—but fiends. There is no more chance of making anything else of them than there is of transforming a tiger into a yard dog.

Early in this war I told my wife and my three daughters that I had not the least fear that Germany would dictate the peace; but if by any chance she should, before the swastika went up over the Capitol at Washington, I would kill all four of them and then myself. What natural-feeling husband and father could do otherwise?

It was only by the closest margins that the Germans missed being masters and fiendish ravishers and enslavers of the whole world in World War I. They missed it by just as little this time. What father who knows these facts, and the nature of the Germans and Japanese, can approach death in peace so long as there remains a possibility of his children and grandchildren being debauched and enslaved, with a slavery a hundred times more galling than the African slavery of the South? The only way to make it impossible is to sterilize them all.

So far this editorial had been put into type before I came across, in the *Reader's Digest* (Sept.), Henry Taylor's article "Getting Rid of the Nazis is Not Enough." There he says plainly the German people other than Nazi are willing to make peace at any time the war goes against them "and bide their time for a more favorable opportunity to strike again." He stresses the fundamental point that Germans firmly believe their race to be superior to every other race. He says it is amazing how the Germans get away with the same appeals to the chivalry and humaneness of the victors—words which have no meaning for them—every time they lose. And he says "their appeal will be effective on the American and British mind, because we are not cold-blooded, as the Germans are, about slaughtering people to our own profit."

Henry Taylor is a very intelligent man. He has spent some 15 years in Germany as a news corre-

spondent. He knows the Germans.

He says "we must go the whole distance with the Germans this time, once for all." He quotes Churchill's words, "Germany must be beaten to the ground."

That will not serve. They will crawl on their bellies on the ground and lick our boots—and at the first opportunity spring at our throats.

Beating them—all of them—into the ground and packing it down hard, would serve; but sickly, mawkish sentimentality will not allow that.

The only way to "go the whole distance" "once for all," is to sterilize every German man, woman and child; and that goes for the Japanese also.

WHAT PROMISES TO BE A GODSEND TO THE PATIENT WITH A COLOSTOMY

EVERYBODY in hospital or home who has had experience of a colostomy remembers the experience with a shudder. The inevitable odor which makes of its victim a pariah is, when prolonged, one among the most terrible of human experiences.

From a reliable source¹ comes promise of deliverance of these victims and their victims, *post et ante*. It would appear that no longer need family doctor or surgeon, confronted with the problem of colostomy, have to consider the resultant day-and-night stench of all the environs.

As Carroll says, after a colostomy, permanent, or for any considerable period of time, many "become adept in regulating their bowel movements, but the absence of a sphincter muscle leaves the individual unable to control the escaping gas, and at times, some of the fecal discharge. Various pads, cups and belts have been tried, and while these tend to keep gross soiling to a minimum, nevertheless all these will of themselves in time become offensive, and they will not prevent the escape of malodorous gases."

This considerate and resourceful surgeon advises that we "look up the record of those unfortunates who preferred death and, in fact, took their own lives, rather than face the future with a permanent colostomy. Some feel themselves social outcasts, and even members of their immediate ramily find it difficult to aid them, so that their lives must be entirely changed."

It is evident that few could have found it possible to return to any occupational locale less malodorous than a glue works or a fertilizer factory

using fish as its main raw ingredient.

The interest of the Chief of a Department of Chemistry was enlisted, with the result that there is now available "a compound which can be given in a small capsule two to three times a day before meals, which does away with all the objectionable odors connected with colostomy. Since using these deodorant capsules at the hospital, we have been able to place these colostomy patients in a two- or four-bed ward without embarrassing any member in the room. Having tried these capsules on patients working in spite of their handicap, attest to the value of the compound. After taking these capsules for a time, and being able to carry on their duties as salesman, stenographer, or housewife, we have had them discontinue the medicine for a while. It was not long before every one insisted upon returning to the capsules.

"It has been used in cases of extreme flatulence with excellent results, as the gas that was passed was odorless. This fact should offer further possibilities for the use of this material for patients in ward beds, as anyone who ever cared for patients in a room of two or more beds can testify that anything to reduce fecal odors would be more than welcome.

"This substance is not absorbed from the intestinal tract, and has had no deleterious effect upon any of the patients who have used it. Its simplicity and thorough effectiveness make it a valuable adjunct in the postoperative treatment of the unfortunate patient who is forced to live with a colostomy.

"The compound used consists of an especially selected, treated and activated carbon, 90 per cent, plus phenylsalicylate, 10 per cent. It is put up in sealed enteric-coated capsules to prevent action by the stomach secretions which would nullify its effectiveness. Its action is by adsorption."

Southern Medicine & Surgery imported from Peking the first ephedrine to be used in Charlotte (and, as it believes, in the Carolinas). It was at this journal's instigation that the first nicotinic acid was made available in this section. In order to make these deodorant capsules available over our territory with least possible delay, this journal has purchased 1000 for distribution at cost.

If the editor had to have a colostomy, he would crave for himself, capsules right away. If he had a patient with or needing a colostomy, he would crave, for such patient, these capsules right away.

^{1.} W. C. Carroll, M.D., St. Paul, in Minnesota Medicine, Aug.

NEWS

SOUTH BOSTON HOSPITAL PURCHASED BY DRS. BRIGGS AND WATKINS

The South Boston Hospital, with equipment, has been purchased from the executors of the estate of the late Dr. R. H. Fuller, by Dr. I. K. Briggs and Captain William R. Watkins, flight surgeon, United States Air Force, overseas. The active personnel of the new unit will be Dr. I. K. Briggs, surgeon; Dr. W. C. Brann, obstetrician; Dr. John A. Owen, anesthetist; Miss Mary Elizabeth Crowder, technician; Miss Mae Conner, supervisor; Miss Amelia Wright, secretary-treasurer, plus a full staff of nurses and orderlies.

Dr. Briggs has spent 38 years in active practice at South Boston, for the past 16 years as surgeon and owner of the Halcyon Hospital, and will now direct the management of

the South Boston Hospital.

As soon as possible, the Halcyon Hospital will be closed, and its equipment transferred to the new location. In this way South Boston will boast one modern institution, with 45 beds at the beginning, with complete laboratory and operating room equipment.

Dr. William R. Watkins, before he volunteered for the army, had practiced at South Boston for nearly five years,

prior to which he practiced at Roanoke.

TUMOR CLINIC FOR MORGANTON

The Catawba Valley Medical Society voted at a recent meeting to sponsor a tumor clinic to be conducted at Morganton's Grace Hospital and appointed a committee to arrange details of its organization.

Physicians and surgeons from the four N. C. counties in the society's area gave approval to a proposal to set up a clinic which would be the first in North Carolina to meet the standards of the American College of Surgeons for diagnosis and treatment of cancer.

Dr. Clyde R. Hedrick of Lenoir, president of the society, appointed as an organization committee: Dr. Yates S. Palmer, of Valdese; Dr. L. A. Crowell, Jr., of Lincolnton; Dr. Lawrence Caldwell, of Newton; Dr. Douglas Hamer, of Lenoir; Dr. L. W. Oehlbeck, of Morganton, and Dr. J. S. Lewis, of Hickory.

The committee will draft definite plans for the tumor clinic for final approval by the society at a called meeting, and is expected to make provisions to include in the clinic's service other counties in addition to those in the Ca-

tawba Valley group.

CIVIL SERVICE EXAMINATIONS FOR MEDICAL GUARD-ATTENDANTS AND MEDICAL TECHNICAL ASSISTANTS

Applicants for Medical Guard-Attendant positions which pay \$1,970 (counting overtime compensation) a year must be registered graduate nurses, or have had at least3 years' service in the Medical Corps of the Army or Navy, or have had -8 months' service as hospital attendant-guards in any one of the Department of Justice penal or correctional institutions; in the Medical Center for Federal Prisoners, Springfield, Missouri; or in the U. S. Public Health Service Hospital at Lexington, Kentucky, or at Fort Worth, Texas.

Applicants for the Technical Assistant positions which pay \$2,433 a year (counting overtime compensation) must possess the qualifications for Medical Guard-Attendant and in addition must have had 1 year of training or experience in one of the following options: Clinical Laboratory Technique, Pharmacy or X-ray Laboratory Technique,

Applicants must have reached their twenty-first birthday. There is no maximum age limit. No written test is required. Persons now using their highest skills in war work should not apply. Appointments in Federal positions are made in accordance with War Manpower Commission policies and employment stabilization plans.

Further information and application forms may be obtained from first- or second-class post offices, Civil Service Regional Offices, or the Commission in Washington, D. C.

WINTHROP DIRECTOR OF RESEARCH BECOMES PROFESSOR OF PHYSIOLOGY AT ALBANY

Maurice L. Tainter, M.D., Director of Research of the Winthrop Chemical Company, with headquarters at Renselaer, N. Y., has been appointed Professor of Applied Physiology in Albany Medical College. His duties with Winthrop will continue uninterrupted. Prior to his association in the work of Winthrop, Dr. Tainter was Professor of Pharmacology in Stanford University Medical School, and Professor of Pharmacology and head of the Division of Physiology in the College of Physicians and Surgeons Dental School, San Francisco.

NEW PROFESSOR OF PHYSIOLOGY AT CHAPEL HILL

Dr. John H. Ferguson, distinguished for his research studies on bloodclotting, has accepted appointment as professor of physiology and head of the Department of Physiology at the University of North Carolina. The announcement was made jointly by Dr. R. B. House, dean of administration, and Dr. W. Reece Berryhill, dean of the School of Medicine.

Dr. Ferguson comes to the University from the faculty of the University of Michigan School of Medicine. He is a native of Edinburgh, Scotland, but has lived in this country for many years. He received his M.D. degree at Harvard University in 1928. He is a former Rhodes scholar. Before going to Michigan he was a member of the faculty of the medical schools at Alabama and Yale.

PROGRAM

NINTH ANNUAL PIEDMONT POST GRADUATE CLINICAL ASSEMBLY

COUNTRY CLUB, ANDERSON, S. C., SEPTEMBER 21ST

10 A. M.—Call to order by Dr. Geo. M. Wilkinson, Greenville, President of the Assembly.

Prof. E. J. Lease, Clemson—The Enrichment of Cornmeal and Grits.

Dr. Homer Daniel, Anderson—Has Prostatic Transurethral Resection Stood the Test of Time?

Dr. P. P. McCain, Sanatorium, N. C.—Indications for Various Forms of Collapse Therapy in Pulmonary Tuberculosis.

Dr. Edwin Allen, Milledgeville, Ga.—Some Borderline Problems in Neuropsychiatry.

1:30 P. M.—Luncheon. (Included in \$3.00 Registration Fee.)

Dr. E. O. Hentz and J. W. Martin, Anderson—The Use of Caudal Anesthesia in Obstetrics.

Major Champ Lyons, Halloran General Hospital, Staten Island, N. Y.—The Use of Penicillin in Wounds and Infections

Officers of the Assembly

President, Dr. George Wilkinson, Greenville; Executive Vice-President, Dr. J. R. Young, Anderson; Vice-Presicents—Dr. S. D. Brown, Royston, Ga.; Dr. J. T. Davis, Walhalla; Dr. J. C. Scurry, Greenwood; Dr. J. Warren White, Greenville; Dr. A. L. Smethers, Anderson; Registrar, Dr. J. N. Land, Anderson.

North Carolina Public Health Association october 25th-26th

The President of the Association, Dr. N. Thomas Ennett, Greenville, announces the meeting to be held at the Sir Walter Hotel, Raleigh, October 25th-26th.

Registration-10:00 a. m. Monday, the 25th.

General Session 2:00 to 5:00 p. m.

Evening Session—Guest speaker, Dr. James K. Hall, Richmond.

Section Meetings—Tuesday morning, the 26th. Adjournment—Tuesday, the 26th, 1 p. m.

AMERICAN-SOVIET MEDICAL SOCIETY PRESIDENT HONORED BY RUSSIAN ACADEMY OF SCIENCES

Dr. Walter B. Cannon, president of the American-Soviet Medical Society, was inducted as a member of the Academy of Sciences of the U. S. S. R. at a reception given in his honor by the Soviet Embassy in New York City August 12. Dr. Cannon, who is professor emeritus of physiology at Harvard, is the first American to be a member of the Academy of Sciences of both the United States and the U. S. S. R.

In conferring the honor, the Academy of Sciences of the U. S. S. R. stated their profound confidence that "the hour is not far off when we Russian, British and American scientists and our colleagues in other countries will meet at an international congress to share scientific achievements which will have helped bring back peace and freedom to humanity."

Two other American scientists, Dr. Ernest O. Lawrence, professor of physics, and Dr. Gilbert N. Lewis, professor of chemistry, both in the University of California, were similarly honored.

Women "Med" Inning at Mississippi

War has interrupted a historic bit of business at "Ole Miss." Tradition requires that all freshmen medical students go unshaven for the first month, trying to raise a doctor's beard. This year the freshmen are in Army and Navy uniforms and under military discipline which says beards are taboo. Girl medical students, who felt out of it under the old custom, welcome the change.

Dr. Robert J. Murphy, a cousin of Dr. Patrick Livingston Murphy who served as superintendent of the State Hospital at Morganton from 1882 until his death in 1907, has become a member of the staff of that institution.

Dr. Murphy, whose home is in Murfreesboro, Tenn., was graduated from Vanderbilt University in 1939 and served his interneship at Duke Hospital. Upon completing his interne work, he joined the Goldsboro Hospital's staff in November, 1941.

Dr. G. B. Arnold has submitted his resignation as superintendent of Lynchburg (Va.) Colony to the State Hospital Board effective October 1st. Dr. Arnold plans to enter practice in Lynchburg.

He joined the Colony staff in 1929, two years after graduating from the University of Virginia Medical School, and was appointed superintendent in 1933, and has been at the Colony ever since, except for a six months' period last year, when he served as a major in the army. He was retired because of a knee injury suffered during his college days while playing football.

MARRIED

Miss Eva Katherine Machen, of Stella Road, Belmont, Mass., became the bride of Dr. Charles Wait Lloyd, son of Dr. and Mrs. Jchn J. Lloyd, of Rochester, N. Y., in Belmont Methodist Church, Saturday, August 14th.

The bride was graduated from Cambridge Haskell School and Wheaton College. The groom was graduated from Princeton University and from the University of Rochester School of Medicine.

After a wedding trip to Keuka Lake, N. Y., Dr. and Mrs. Lloyd will live at Durham, N. C., where Dr. Lloyd will be resident endocrinologist at Duke University Hospital

Miss Louise Young Workman and Dr. Thomas Andrew Murrah III, both of Charlotte, were married on August 14th. Miss Workman is a technician, Dr. Murrah an interne, at the Charlotte Memorial Hospital.

Dr. Robert W. King, of Wake Forest, and Miss Dorothy Williamson Sisk, of Fayetteville, were married on July 13th.

DIED

Dr. Arthur Thomas McCormack, Louisville, died of acute heart attack on August 7th. He was born at Howard's Mill in Nelson County, Kentucky, August 21st, 1872. Dr. McCormack was State Health Commissioner of Kentucky and Secretary of the Kentucky State Medical Association. He was President of the Southern Medical Association 1939-1940 and at the time of his death was a member of its Board of Trustees. He had been President of the American Public Health Association, of the Conference of State and Provincial Health Authorities of North America, of the Medical Veterans of World War I, of the Association of Military Surgeons. He was in World War I, serving as Chief Health Officer of the Panama Canal Zone, being sent to Panama by General Gorgas when he (Gorgas) was made Surgeon General.

Dr. McCormack succeeded his father, the late Dr. J. N. McCormack, as the State Health Commissioner in 1912. Dr. J. N. McCormack organized the state health work in Kentucky sixty-four years ago and he and his son, Dr. Arthur, were continuously in charge of the State Health Department of Kentucky for sixty-four years.

Dr. Thomas Lacy Morrow (University of Maryland, 1915), Captain, M. C., U. S. Navy, died at his home at Guilford College, North Carolina, August 11th, after an illness of a year.

Dr. Lewis W. Elias, pediatrician and member of the N. C. State Board of Medical Examiners, died of a heart attack at his home at Asheville, August 10th.

Dr. Thomas H. Pope, Newberry, South Carolina, aged 67, died on August 6th. He was a graduate of the Medical College of the State of South Carolina, class of 1908.

Dr. John Blair Fitts, 53, died at a Richmond hospital August 19th. Dr. Fitts was educated in the Richmond schools, Hampden-Sidney College and the Medical College of Virginia. He did graduate work at the Massachusetts General and Children's Hospital, Boston, served in World War I, and was a member of the faculty of the Medical College of Virginia.

He was a member of the staff of Stuart Circle Hospital and the Retreat for the Sick, a Fellow of the American College of Surgeons, and a member of the American Medical Association, the American Orthopedic Association, the Virginia Orthopedic Society, the Medical Society of Virginia, and the Richmond Academy of Medicine.

Dr. Charles Lewis Haywood, Jr., 40, chief surgeon of Hugh Chatham Memorial Hospital, Elkin, N. C., died



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suddenly August 22nd from a heart attack while sitting at his office desk in the hospital.

He was a native of Durham. Following his graduation from Durham city schools with honors he won a scholar-ship to the University of Virginia from which he won his A.B. and A.M. degrees. He entered Harvard University Madical School in 1923 and received his M.D. degree in 1927. Following his internship of two years in Fifth Avenue Hospital, New York, he returned to Durham, practicing there six years, then removed to Elkin seven years ago as chief surgeon of the hospital.

BOOKS

MIND, MEDICINE AND MAN, by GREGORY ZILBOORG, M.D., with a foreword by ARTHUR H. RUGGLES, M.D. Brace & Company, 383 Madison Avenue, New York City. \$3.50.

The author begins by pointing out the necessity for unlearning much that has been falsely learned, for accepting the fact that much disease exists without discoverable physical basis, and that the psychiatrist is the person to look to for help. This reviewer would say the family physician, or the psychiatrist to whom the patient is referred by the family physician.

Contents

On Certain Misconceptions; Instincts and Their Manifestations; Normal Neuroses and Personality; Certain Aspects of Mental Illness; Theories and Practice; Civilization and the Social Sciences; Varieties of Human Aggression; Crime and Judgment; Psyche, Soul, and Religion.

The chapter headings suggest strongly the point of view of the author. Each subject is well discussed, albeit with perhaps too much of dogmatism. The author is well-trained for the job of writing on this large and important subject, and he discharges it with confidence and vigor.

GASTRO-ENTEROLOGY, by HENRY L. BOCKUS, M.D., Professor of Gastro-enterology, University of Pennsylvania Graduate School of Medicine. In three volumes, 2700 pages with 900 illustrations, many in colors. Volume I—"The Esophagus and Stomach." 831 pages with 294 illustrations on 134 figures, 15 in colors. W. B. Saunders Company, Philadelphia and London. 1943. Price—3 Vols. and separate desk index, \$35.00.

Such great advance has been made in knowledge of disorders of the digestive tract in the past quarter century as to demand a work on an encyclopedic scale. Bockus has provided such a work, dedicating it, fittingly, to the "student physicians of the University of Pennsylvania Graduate School of Medicine," who have stimulated him to better and better teaching over many years.

Volume 1 is the only volume off the press. In setting forth the investigation of disease conditions after the formal fashion, the author has thought it worth while to consider in detail such practical matters as pitfalls in the interpretation of abdominal pain, clinical appraisal of pain, sore tongue, bad breath, hunger and appetite, sense of fulness, borborygmus, hiccough.

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Contents SECTION I

History Taking, Symptomatology, Physical Examination, Laboratory and Other Methods

SECTION II

The Esophagus and Diaphragm

Applied Anatomy and Physiology, Anomalies, Benign Stricture, Cardiospasm, Tumors, Diverticulum, Peptic Ulcer (Esophageal), Inflammation, Tuberculosis, Syphilis, Fungus Infections; Dysphagia with Iron-Deficiency Anemia and Vitamin-B Complex Deficiency in Women; Varices, Foreign Bodies, Fistula and Functional Derangement of the Esophagus; Diaphragmatic Hernia

SECTION III

THE STOMACH

Applied Anatomy and Physiology; Gastric Function and Disease; Disorders of Gastric Secretion; Acute and Chronic Gastritis; Gastric and Duodenal Ulcer; Chronic Peptic Ulcer; Uncomplicated Ulcer of the Stomach and Duodenum; Surgical Treatment of Peptic Ulcer; Complications of Chronic Peptic Ulcer and Conditions with Which it May Be Confused; Complications and Sequelae of Gastric Surgery for Peptic Ulcer; Carcinoma; Sarcoma; Benign Tumors; Syphilis; Chronic Infectious Diseases; Other Conditions Resembling Gas-

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KAISER WAKES THE DOCTORS, PAUL DE KRUIF, Harcourt, Brace & Company, 383 Madison Ave., New York City, 1943, \$2.00.

It is obvious to any one who can think and cares to think, that no person or group can be weakened, unless that person or group happen to be asleep. The doctors are wide-awake, and they have been wide-awake all along; so they know how to appraise at their true value Mr. de Kruif's sensational, bombastic—but apparently money-making—outpourings.

Effects of Various Thyroid Substances in Patients
With Obesity

(S. W. Kalb, New York, in Il. Clin. Endocrinology, Jan.)

Two groups of obese patients were studied. Each was on a submaintenance diet. Of first group of 469 patients—169 were given thyrojdobulin, 100 Parke Davis' thyroid, 100 Armour's thyroid and 100 were given placebos. Each thyroid substance was given in doses of 1 gr. t. i. d. for 2-32 weeks and any toxic manifestations recorded.

The second group comprised 45 obese individuals. All of these received a low-caloric diet, but no medication for four weeks, during which period the patient was weighed and the pulse and b. m. r. were noted.

None of the thyroid substances caused a change in systolic or diastolic blood pressure. With the exception of palpitation (18-20%), few toxic reactions were experienced; no difference was observed in this respect between the various thyroid substances.

A low-caloric diet supplemented by thyroid substances, regardless of the order of rotation, was followed by a loss of weight ranging from 18-46.2 pounds per patient over a period of 18 weeks. The pulse rate was accelerated in over 90 per cent of the patients by each of the thyroid substances used. Each of the thyroid substances used. Each of the thyroid substances in b. m. r. to the same degree.

In a previous publication from this clinic, it was concluded that desiccated thyroid alone, or in combination with amphetamine (benzedrine) sulfate failed to increase the rate of weight loss over that resulting from the reduced diet alone.

Many of the symptoms of headaches, weakness, palpitation and a nervousness were observed in a significant number of obese patients on low-caloric intake alone.





THE military doctor of World War II — unarmed yet unafraid — moves up shoulder to shoulder with the combat troops. Bayonet charge ... parachute landing ... beach-storming from raiding barges ... constantly, the medical officer proves that he is every inch a fighting man.

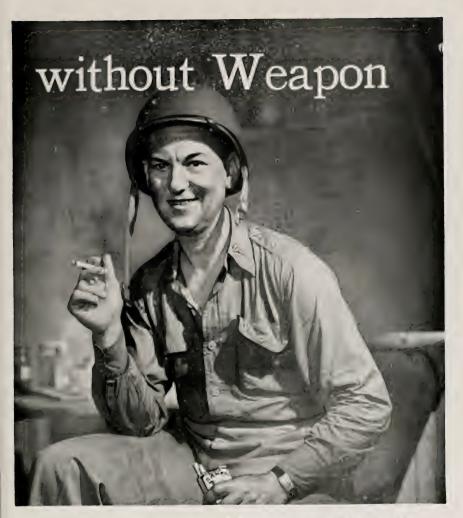
More than likely, he's a Camel smoker, too, for Camel's mellow mildness and smooth, comforting flavor quickly won it first choice in the armed forces.*

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With men in the Army, the Navy, the Marine Corps, and the Coast Guard, the favorite cigarette is Camel. (Based on actual sales records.)

New reprints available on cigarette research—Archives of Otolaryngology, February, 1943, pp. 169-173—March, 1943, pp. 404-410. Camel Cigarettes, Medical Relations Division, One Pershing Square, New York 17, N. Y.

_ Costlier Tobaccos

CHUCKLES

THE ULTIMATE IN COURTESY AND CONSIDERATION The mother of the late Dr. Isaac Green of Weldon, N.

The mother of the late Dr. Isaac Green of Weldon, N. C., postmistress of Warrenton, N. C., from 1865 to 1906, used to tell of seeing in her childhood an uncle of hers, acting as a specially appointed guard to a man convicted of murder, escort the prisoner, with a rope around his neck, to a seat just below the pulpit of the Episcopal Church, that he might listen to the preaching of his funeral sermon.—Lizzie W. Montgomery's Sketches of Old Warrenton.

"And do you have any religious views?" asked the lady of her new maid.

"No, ma'am," she replied, "but I have some fine snapshots of Coney Island and Niagara Falls."

When Paderewski was visiting Boston many years ago he was approached by a bootblack who called, "Shine?"

The great pianist looked down at the youth whose face was streaked with grime and said, "No, my lad, but if you will wash your face I will give you a quarter."

"All right!" exclaimed the boy looking sharply at him. He ran to a nearby fountain and made his ablutions.

When he returned, Paderewski held out the quarter. The boy took it and then returned it gravely, saying, "Here, Mister, you take it and get yourself a haircut." One of the most important movie producers had his secrtary call the late John Barrymore to invite him to a party. The great John politely murmured into the telephone, "I have a previous engagement which I shall make as soon as possible."

Oliver Herford was having lunch at his club. A "crasher" slapped him on the back with, "Hello, Ollie, old boy, how are you?"

Herford, with a freezing look: "I don't know your name and I don't know your face, but your manners are very familiar."

Otto Kahn, famous financier, drivin gthrough the lower East Side of New York, saw a large sign reading: "Samuel Kahn, cousin of Otto Kahn." Otto protested to Samuel that he knew of no cousinship. A few days later, Otto drove by the place again. The sign read: "Samuel Kahn, formerly cousin of Otto Kahn."

Whistler was in Paris at the time of the coronation of King Edward, and at a reception one evening a duchess said to him: "I believe you know King Edward, Mr. Whistler."

"No, Madame," replied Whistler.

"Why, that's odd," she murmured, "I met the King at a dinner-party last year, and he said that he knew you."
"Oh," said the painter, "that was just his brag."



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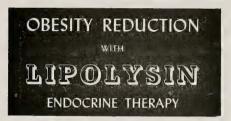
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JAMES M. NORTHINGTON, M. D., Editor

VOL. CV

OCTOBER, 1943

No. 10

Some Modern Concepts of Oral Pathology*

J. M. Feder, M. D., Anderson, South Carolina Director of Clinical Laboratories, Anderson County Hospital

THE POET has more or less aptly said that the eyes are the windows of the soul. With less of poetry, but more of truth may it be said that the mouth is the showcase wherein is clearly displayed for all who can read the story of the wellbeing or lack of wellbeing of the human organism. Then, it must follow that many systemic diseases as well as malignant growths are seen by members of your profession before the patient consults a physician.

Let us consider briefly the bacteriology of the mouth. Nowhere else in the human body, not even in the gastrointestinal tract, do we find a more prolific or varied bacterial flora.

The reason for this hyperabundance of bacilli, cocci and spirilla is self-evident. In this orifice there exist all of the elements promotive of bacterial growth—heat, moisture, a proper hydrogen-ion concentration and food. In normal health, and in the absence of repeated traumata, there is an excellent protective system to combat these in the form of increased tissue resistance and vascularity.

The etiological background of pathological lesions commonly found in the mouth may be conveniently subheaded into five main groups:

- 1. Cancer and other neoplastic diseases.
- Lesions in the mouth due to internally administered drugs.
- 3. Oral manifestations of systemic disease.
- 4. Hemorrhagic conditions.
- 5. Deficiency states, so-called.

CANCER AND OTHER NEOPLASTIC DISEASES

The importance of this phase of our discussion can hardly be over-emphasized to you, since careful statisticians charge 70 per cent of oral cancers—exclusive of cancers of the lip and tonsil—to ill-fitting dentures and rough toothedges irritating the soft tissues.

This alone should be a strong argument for dental hygiene, a warrant for the "See Your Dentist Twice a Year" slogan, rather than the "Tooth Paste Smile," or the fear of being a social outcast, because one suffers from the dread halitosis about which "Even your best friends won't tell you."

When a cancer of the mouth has reached the stage that it becomes a fungating cauliflower-like mass, making the afflicted one an object of horror, expert professional opinion is no longer required to make the futile diagnosis.

You gentlemen can well afford to forget the textbook pictures of cancer and concentrate upon early and often innocent-appearing lesions, which when first seen by you, can almost certainly be cured if proper therapy be promptly instituted.

Two case histories illustrative of this point:

- Mr. A. comes into your office with a cracked lip showing a little ulcer that will not heal.
- Mrs. B.'s tongue has a dense white border. (Leukoplakia in the mouth is almost 100 per cent cancer.)

Remember that in neither instance was the visit of the patient to you motivated by these serious

^{*}Presented to the Piedmont Dental Association, meeting at Greenville, S. C., March 18th. Published with permission of and coincidentally with. South Carolina Dental Journal,

lesions. The dentist who watches for these early cancers and gives wise and positive counsel is the direct means of saving many lives. Leukoplakia, left untreated, will become cancerous in 90 per cent of the cases, so all leukoplakic lesions within the mouth must be considered premalignant. Irradiation of the few such lesions which would never prove malignant would be amply justified by the end results. Indeed there is no means of knowing in any certain case that no cancer would have resulted had not the x-rays been used.

EPULIS

This distinctly dental tumor is divided into three classes based upon its etiology:

- 1. Inflammatory
- 2. Fibroma or connective-tissue
- 3. Giant-cell or true.

The first two of these tumors arise from the soft tissue; the third, a true neoplasm, along with other giant-cell tumors, originates from the periodontal membrane or from the bone. In most of these cases an x-ray picture will reveal an area of osteitis. These tumors occur very frequently in every dental practice. They should be submitted to surgical removal. The last two, i.e., the fibroma and giant-cell epulis, rarely become malignant; but they are notorious for recurrence after excision. Inflammatory epulis is apt to develop into cancer.

UNUSUAL ORAL TUMORS

It is not within the scope of this presentation to attempt to classify and elaborate upon the various complex salivary-gland tumors, the giant-cell tumors and sarcomata of the mandible, and other unusual neoplasms. However, as a matter of record, I report on two cases, each unique in its own way in our experience.

Case 1.—A Negro man, three weeks after a blow upon the jaw, referred to us for examination, came with a ragged, deep-invading, dark-brown lesion, which on biopsy proved to be a malignant melanoma. My findings were verified by Colonel J. E. Ashe, Curator of the Army Medical Museum. We have not been able to locate a record of a similar one. Having lost track of this patient, I am unable to give with certainty the ultimate outcome. However, there is hardly room for doubt that the patient is dead long before this, as the diagnosis was made over a year ago.

Case 2.—A white matron, aged 56, a resident of the mountain district of our state, had a diagnosis of cancer of the mouth made by a local doctor and was told that she had only a short while to live. A family consultation brought about the decision to visit the Cancer Clinic of the Anderson County Hospital as a Court of Last Resort. Her mouth was propped open by the growth, and how she managed to take in either air or food is beyond the scope of the imagination of this narrator. At first glance, I was wholly in agreement with the thought of her family doctor. We irrigated, cleansed the lesion, and then one of our staff began to explore with his finger. Using the same digit he began to dissect and within a few minutes his efforts were rewarded as he brought away almost blood-lessly a sublingual cyst the size of a tangerine. This is on

exhibit here. The husband returning two weeks later, as requested, to report, greeted us with, "I wish you fellers could give me that thing so I could put it back in my old woman's mouth sometimes."

ORAL MANIFESTATIONS OF DRUG IDIOSYNCRASY

Embarrassment and disaster can result from failure to take into account the possibility of untoward effect of drugs upon the tissues of the mouth. The following case history is cited as an example:

A white matron, aged 60, consulted her physician because of soreness of her gums and loosening of her teeth. He advised her to have the teeth extracted. Refusing to do so, she went to a well-known clinic where she was advised in a like manner. Still she refused to part with her teeth until she consulted a dentist in New York City. He was at once convinced that the condition was due to the use of phenolphthalein. She denied this but admitted that she had been taking certain pills, the chief constituent of which is phenolphthalein. She was given proper treatment; the pills were discontinued—and she still has her teeth and her gums are now healthy.

It may be the misfortune of some of you to one of these days have the individual to be now described enter your office. He is a very sick manweak, pallid, ashy gray. In a very weak voice he says, "My teeth are getting loose and my throat is sore." Inspection will reveal necrotic gums and gravish necrotic ulceration on the visible portion of his throat. Maybe he will volunteer the information that he has been unable to sleep and that he has severe headaches. He has been taking some highly advertised sleep producer or headache cure. Were you to make an examination of his blood you would find the polymorphonuclears (granulocytes) ranging from none to five or 10 per cent instead of the normal 70. Remember these granulocytes are the fighter cells, that they constitute the larger part of the body's resistance. This man has none; therefore, he is afflicted with fatal agranulocytosis.

Dr. Roy Kracke, distinguished hematologist of Emory University, has listed many of the amidopyrine-containing substances which tend to bring about this condition. It may be pointed out that not least potent for harm among these are some of the proprietary preparations taken by women for periodical pain. It is essential that the potentiality for evil of drugs of this group be recognized.

The fact must not be overlooked that the muchused sulfonamides in some cases lessen the number of leukocytes, and a good many cases of agranulocytosis have been charged to their employment. We are very strongly of the opinion that these potent drugs should not be given over a long period of time unless facilities for blood examination at frequent intervals are available and utilized.

Salivation due to ingested mercury and the bluelined gingival margin of chronic lead poisoning are so frequently noted that comment is unnecessary. MOUTH SYMPTOMS IN SYSTEMIC DISEASES

Syphilis-The lesions seen may be primary or secondary. Chancre in the mouth is usually on the lip or tongue, and may be acquired innocently or otherwise. The differentiation of chancre from cancer is easy as a rule. The edge of a cancer is ragged, irregular, soft, and when sponged bleeds easily. On the other hand, the lesion of primary syphilis is sharply circumscribed, the border raised, firm, and the floor of the ulcer is smooth and fairly clean. Secondary syphilis will manifest itself by mucous patches in the throat-white plaques which may be reflected onto the gums. A chronic ulcerated lesion of the soft palate, especially one that is perforated, is more than likely syphilitic. Be suspicious of the mouth which contains multiple, moist, papillomatous lesions. They are frequently syphilitic. It is unnecessary to point out the element of personal danger encountered by dentists. Primary syphilitic lesions occur on the dentists' fingers only too frequently.

Leukemia, sometimes designated Cancer of the Blood may manifest itself by ulceration of the mouth and gums. A disease process in the mouth not otherwise accounted for demands examination

of the blood cells.

Pernicious anemia also presents symptoms and signs in the oral cavity. The raw, beefy tongue, often enlarged, is a danger signal and should lead the dentist to send a note to the family physician, or confer with him, stating his suspicions. At times, the pallid membranes of the mouth will suggest a grave secondary anemia that will warrant more detailed investigation.

DEFICIENCY STATES

It should be borne in mind that patients suffering from more or less painful dental maladies are unable to properly utilize a proper diet; hence, aid should be given in the form of mixed vitamins to tide the individual over this period of deprivation. If this is not done, a vicious circle is in the making. Avitaminosis delays wound healing; and delayed wound healing prevents the taking of sufficient vitamins—'round and 'round we go.

In the Journal of the American Dental Association, Osterloh states that the pain following dental extraction can be controlled in 70 per cent of cases by intramuscular injection of thiamine hydrochloride.

In the light of recent investigations Vincent's disease can now be included under this head. Observations made by the late Dr. Harry Teasley of Hartwell, Ga., and confirmed by this writer, demonstrated conclusively that this condition can be materially aided by the administration of vitamin B complex and nicotinic acid. The fusiform bacilli and spirochetes of Vincent are merely secondary invaders of the structures; they are present in

nearly all mouths but cause no damage to health. Certainly none would fail to recognize the full-blown effects of vitamin C deficiency when a typical case of scurvy presents itself. However, it must be borne in mind that mild vitamin deficiency makes itself known by moderate gum recession and more or less pain swelling and oozing.

HEMORRHAGIC DISEASES IN DENTAL PRACTICE

Uncontrolled hemorrhage in any field of surgery is dangerous; if long uncontrolled it is disastrous. The hemophiliac belongs in the never-never land of extraction. These men are "bleeders," not subjects for any form of surgery. Dentists, like physicians, are reluctant to do any surgery on a jaundiced patient, because this is sometimes a sign of vitamin-K deficiency. Consequently a prothrombin test is indicated in these patients before extraction is undertaken. This procedure is rather difficult to successfully carry out and the patient should be referred to a good laboratory for its performance. While the determination of vitamin-K deficiency by means of prothrombin time is quite a complicated laboratory procedure, a very simple test is available for the determination of the coagulation time of the blood. All the material one requires is a glass slide, a needle and a watch with a second hand.

A large drop of blood is placed upon the slide and the needle is passed through it every 30 seconds. The point where threads of fibrin string out with the needle is considered the coagulation time. Four minutes is the maximum for operative safety. By means of this simple office procedure, which my associate, Miss Tribble, will demonstrate as a part of her exhibit¹ at the close of this presentation, the minor bleeder as well as the hemophiliac can be discovered.

A final word of caution here: There is a possibility that a relatively large vein severed in the course of a dental operation will behave in a manner very different than that of a drop of blood on a slide. A normal coagulation time is no guarantee against hemorrhage; it is, however, a fair assurance that the patient is not a hemophiliac.

EVALUATION OF HEMOSTATIC AGENTS

We have unusual success with a hemostatic agent known as Koagamin, a preparation made from the plant, shepherd's purse. Occasionally it has given spectacular results in our hands. In times of urgent need, when hemorrhage persisted despite the use of all ordinary measures aimed at its stoppage this agent has proven to be of great value. We do not claim that our group has evaluated all of the newer preparations offered for this purpose; but, of the many we have employed, with the exception of the one named, all have proved unsatisfactory. Koagamin may be administered

intravenously and it does not interfere with subsequent transfusion should one be needed. This cannot be said of any of the other systemic hemostatic agents, and its use has produced no untoward effects in our hands.

The use of calcium, either orally or intravenously, appears to have little if any place in the hemorrhagic diatheses. Scientific investigation has shown that blood calcium deficiency is rare in these patients.

SUMMARY

1. In all cases of gum disease, or unusual or persistent lesions within the mouth, it would appear the part of wisdom to carefully inquire into the medication being taken by the patient.

2. In painful dental lesions which prevent the intake of a proper diet, administration of suitable doses of the mixed vitamins should be considered to tide the patient over the deficiency interval.

- 3. If there is jaundice, a tooth extraction or other surgical procedure should be delayed, or a prothrombin time test made, before the procedure is carried out. Determination of coagulation time is in order for all patients who give a history of a tendency to hemorrhage from former extractions or slight wounds. A better rule would be to carry out the simple procedure before every extraction.
- 4. Remember that the first manifestations of such grave systemic disorders as the leukemias make themselves known by pathologic processes in the mouth. A blood study will clinch the diagnosis.
- 5. If the treatment of cancer is to be carried to a successful conclusion, the diagnosis must be made before it is obvious.
- 6. Finally, the ratio of our discovery of these conditions will bear a direct relationship to the vigilance we exercise in keeping them constantly in mind and resorting to proper diagnostic aids as occasion demands.
 - Scientific Exhibit and Demonstration of Practical Office Laboratory Procedures. Evelyn Tribble, M.T., Anderson, S. C., Chief Technician, Clinical Laboratories, Anderson County Hospital.

TESTOSTERONE THERAPY IN MALE HYPOGONADISM (J. F. McCahey, Philadelphia, in Penn. Med. Jl., July)

Intragluteal injections of 25 mg. of testoserone propionate in sesame oil are given three times weekly for three months. Then for another three months 50 mg. are injected three times weekly. After this two 75-mg. pellets of crystalline testosterone are implanted subcutaneously

and additional implants are made later as indicated.*
Seven cases of male hypogonadism were treated with intragluteal injections of testosterone propionate. In all, the genitals were caused to develop. In all but one, the secondary sex characteristics were established. Two were sufficiently benefited generally to permit discontinuance of treatment. Treatment was also stopped in one because the maximum results did not warrant further therapy. One

was relieved of marked psychoneurotic symptoms. Three were benefited physically.

The psychic benefits appeared to be connected with the induction of physical changes rather than with the establishment of the sex function.

*Dr. Max Gilbert of the Schering Corporation supplied the testosterone propionate and the testosterone pellets.

Anisocoria a Diacnostic Sign in Chronic Appendicitis
(Karl Schlaepfer, Milwaukee, in *Jl. Int. Col. of Surg.*, MayJune)

Attention is called to the greater dilatation of the right pupil as compared with the left (anisocoria) as an objective sign of chronic appendicitis. Buchman of Rostow was the first to report on this phenomenon.

My series consisted of 34 males and 86 females, ranging between 10 and 50 years of age.

In 83.3% of the cases a wider pupil was noted; in 6.6% the left pupil was wider; in 10% no anisocoria could be observed. These were cases of repeated exacerbations of a chronic inflammation of the vermiform process.

These patients were followed up $2\frac{1}{2}$ to 5 months after operation. The difference in the two pupils had disappeared, even when using skin or light stimulation.

In other abdominal conditions such as cholecystitis no anisocoria can be demonstrated.

Anisocoria is a very valuable additional diagnostic aid in cases of suspected chronic appendicitis, provided syptilis, pulmonary tuberculosis and inflammatory or neoplastic lesions of the brain or spinal cord are excluded.

SIMPLIFIED TREATMENT OF ACUTE TONSILLITIS (J. Berberich, New York, in Med. Rec., Jan.)

The old conviction that an acute tonsillitis can be cured quicker by bismuth than by the other remedies, including sulfonamides, has been again confirmed in a series of 45

On the first day adults should take 4-5 capsules of sobisminol mass by mouth or rectally, distributed over the whole day. Mouth administration immediately after food. Children should get 3 capsules on the first day of the illness; on the second adults 3, children 2 capsules. We did not find any important difference in the resorption of sobisminol by mouth or rectally, both forms of application being equally effective.

OUABAIN IN RAPID CARDIAC ARRHYTHMIAS (W. I. Gefter & W. G. Leaman, Jr., Philadelphia, in Amer. Jl. Med. Sci., Feb.)

Ouabain, in a single intravenous dose, reduces the ventricular rate and is effective for treating rapid cardiac arrhythmias of auricular origin. It is not so effective in simple tachycardia or that complicated by severe infection. Combined with one oral dose of digitalis, ouabain is an effective aid in producing full digitalization.

Ouabain produces its initial effect in from 5-20 min., in trom 15-50 min.

We gave 0.5 mg. (5 cat units) intravenously, but delayed administration of the oral dose of digitalis leaf (4-cat units) for 1 hour in order to observe the effect of ouabain per se. Digitalis generally was given in maintenance doses of 1 gr. (1 cat unit) daily, beginning 24 hours after initial treatment

Toxic effects were very few. Two of 33 patients vomited during the observation period, but in each case the oral dose of digitalis had been taken.

Normal rhythm returned within 48 hours of treatment in seven of the 24 cases of auricular fibrillation and in other cases of the same condition at longer intervals.

Some Measures for Preventing Delinquency and Similar Social Ills

TOM A. WILLIAMS, M.D. (Washington, D. C.)

Acting Psychiatrist to the Asheville Guidance Clinic Neuropsychiatrist to the Medical Intelligence and Research of the A. R. C. Commission in France, 1917-18. Foreign Corresponding Member, Neurological Society of Paris, etc.

THE SEEDS of delinquency are sown in the home; as was pointed out to the National Congress of Mothers held in 1909 in Washington, where the remark that fathers were as important as mothers in the upbringing of offspring was greeted with hostility scarcely veiled.

The moral failure of the succeeding generation was the answer.

But a hard-shelled rigidity is almost worse than neglect, driving children to seek outside the sense of personal value not gained from parents who frustrate the social cravings of their children by meaningless formalism in manners, religion and intellectual values.

This is more deleterious even than the mismanagement of sex instinct which has led to its notorious efflorescence among present-day girls,¹ even those supposedly of the "best families."

The remedy is to aim, not at conformity to a shadow, but at development towards a meaningful substance, in a morality which understands both the individual and the society of an age of growth of ideas, resembling those of the Greeks of the Fifth Century B. C., of the Renaissance Italians and English, and of the Eighteenth Century Encyclopaedists, who partly inspired the American revolution of political ideas and at least brought it to a head.

Morons may need management, but no one needs repression. Home and school aims must be development by self-discipline through ideals, as in the Eighteenth Century Scotland, whence so many emigrated here.

Parents and teachers too narrow themselves to inspire their young should encourage their charges' vision to enlarge through such reading as has converted even the delinquents of Justice Panken's Court in New York, and has equally been invaluable in the hands of many teachers who have tried it in school and college, and in my own reëducation of the neurotic.

An annotated list of books (human not didactic) has been compiled for the purpose by the Guidance Clinic, different from that published for delinquents by the Mayor's Committee of New York.

Psychiatric understanding of each child is of course a preëssential to the prescribing for it the reading as well as the advice it requires for transformation, which may be accomplished even

The Author is a versatile neuro-phychiatrist of wide experience in this country, in England, and in France. Those of us who can go back to meetings of the Tri-State Medical Association of 25 and 30 years ago recall his regular attendance on, and his many and valuable contributions to, the meetings. Dr. William Allan used to say he regularly sat up all night every night of these meetings, having Tom Williams tell him everything that had been learned in medicine and surgery since the meeting of the year before. Fortunate are we in having Dr. Williams in North Carolina.

against the obstacle of inadequate parents, still better, however, when these are willing to learn also.

The principle to be kept in mind is that of conditioning. The procedure requires no aid from hypnotism, free association, dream analysis or other artificial expedients. The essential is a transforming of the patient's feelings by means of a resetting of his notion concerning that which is disturbing him. It is immaterial whether this is mainly an external circumstance or an inner attitude; for in both cases it is an attitude which must be readjusted. Thus a situation which provokes fear does so because one of the elements in it is "viewed with alarm." Through the therapist the patient discovers that it is a mere bogy; whereupon his dread vanishes.²

In treatment, it is quite futile to merely *tell* the patient that his phobia is a fatuity. Usually he is already aware of that. Furthermore, unlike hysterics, these patients are unamenable to the gross suggestions which so readily dispel the symptoms of hysteria, failing, however, to transform their proneness to other suggestions whether medical or not. To prevent future accidents the hysteric must be reorientated.

In order that a psychasthenic patient may learn to adjust himself to comfortable living, he must himself undertake a reëducation both extensive and profound. This will usually have to go back to attitudes acquired in childhood. The amount of retraining and the intensity thereof will be proportional to the degree of disentegration of each patient. The time required, however, is many times less than that demanded by psychoanalysis after the manner of Freud; for no time need be

wasted on the shibboleths by which they interpret the complexes of their patients.

CONDITIONING OF INCONTINENCE BY ONE

CONSULTATION

A boy, aged eleven, with nocturnal bladder incontinence, and his sister, aged seven, incontinent only in the day time, were each treated differently in the clinic without any help from the parents, although in both the primary cause was the same; i.e., the constant nagging of a mother attempting to impose upon them an unnatural tidiness, her motive being fear of disapproval of the neighbors. Not altogether unintelligent, this mother was beset by home-pride and appearances. In the little leisure left her from her excesses of cleaning home and dressing children, she read constantly the trash of the pulp magazines with the kind of meretricious ideals which Hollywood has largely adopted. Her impulsiveness and loquacity were obstacles to the grasp of the principles required to deal with the incontinence of her children. The psychiatrist then appealed directly to them. To the girl was proposed a two-hourly schedule of leaving her too-attractive play and entering the home to urinate at 8, 10, 12, 2, 4 and 6. In consequence she did not wet herself for two weeks, instead of every two days. This child did not yet suffer emotionally from her mother's nagging, being distrait and acquiescent to the family situation. However, we could foresee a future withdrawal into autism with its faulty socializing and arrest at least of emotional development.

The boy, on the contrary, had already developed a sullen hostility towards his mother, which was becoming transferred to the rest of his environment. But an appeal to his self-responsibility was at once met. The device proposed was that of the "internal alarm clock," the power of some persons to awake at any hour at will. The boy's proud response was "my grandfather can do that," so he was recommended to diminish evening fluid intake and to set his inner clock to awake at 1:00 a. m. The result was two-weeks of complete continence.

The mother became recalcitrant to a voluntary social service worker and refused to send the children again; whereupon the children became her victims, the boy twice relapsing.

Today, after two months, both incontinent children returned to the clinic. The girl has carried out the two-hour routine and has not wet herself since first seen and has vastly improved in general health, physical appearance and manner.

The boy, now less sullen, is doing well in school, has a manly attitude towards life in general, as well as regarding his own immediate problem.

The clock failed only twice, each time because he drank too much water late. He resolves that on the way to manhood he will not fail again and will come with his sister to see me again in a month.

PSYCHASTHENIC STATES

Formerly termed neurasthenia, mental uneasiness, often chronic and accompanied by symptoms which seemed bodily, these states were attributed to nerve fatigue, and treated without effect with tonics, sedatives and placebos. We must understand that, aside from nervous malfunction due to latent infection, metabolic disorders and endocrinopathies, these patients' complaints are psychogenetic. Regarding psychasthenia, the New England conscience was often incriminated; but recent research has demonstrated the frequency of the malady of doubt, scruple, indecision and even emotional distress in the South. The school children of Louisiana disclosed to the State Research Commission of 1941 as many as 30 per cent of such symptoms. In one high school, nearly three per cent of the pupils had contemplated suicide because of their anxiety about themselves or their future. These patients are curable comparatively rapidly, even in aggravated cases of long continuance as in the two following instances referred privately.

MULTIPLE MANIAS

A boy, aged 14 years, was not doing well at school. He would take hours to dress in the morning and would go away and dream by the hour. Analysis of the situation showed that his condition was the result of reactions caused when the child was only three-and-one-half years of age. He had been the only child, much petted and loved. When he was two-and-a-half years old a little brother was born, and he was jealous of the newcomer, who immediately became the petted and loved-one of the family. He was reproached by his parents. In consequence he was made to feel hyperconscientious because of his bad behavior and forthwith developed little "manias," as expectations which led eventually to the more complex symptoms which had developed when I saw him. He felt that he was unreasonably jealous of the little brother and that he must do something to compensate for it-e.g., put on his clothes slowly or in a particular way. As a result he had built up this elaborate series of habits. He was cured in a few weeks 3

MALADY OF SCRUPULOSITY OF LONG STANDING

The son af a Southern United States Senator was thirty years of age when seen. The young man would take two or three hours to dress in the morning, even when helped. He had lost all initiative, and before performing any act felt compelled to go through numerous trivial expiations. He was cured in less than two years by a gradual education which freed him from extreme dependence upon oversolicitous parents.

The condition is usually psychogenetic, and always arises from habits of thought and emotion which have been allowed to arise during childhood because the parents have not known of the danger of over-solicitude, excessive sympathy or its contrary, neglect of the child's affections until it falls back upon self-pity. A happy medium between too much attention and too little is to be sought. Four children ran away and went as far as New York and Miami, besides shorter distances repeatedly. All are back in school doing well after one or more interviews at the clinic. Teachers, parents and social workers finding children difficult will gain valuable expedients from S. W. Hartwell's Fifty-five Bad Boys; E. R. Wernbridge's Other People's Daughters; Ellinghaus' No Place Like Home; L. Ormond's Laugh and Learn. For the cut-and-dried Welfare Official. Macauley's Whatnot is salutary; and so is Darwin's Committee. For children themselves, well chosen novels are invaluable in showing forth their own faults without exciting an antagonism which ill-judged criticism may incite.

A list of such books is being used by the Health Agencies of Louisiana and the Asheville Guidance

Clinic.

Reliabilitation of Young Women. Va. Med. Monthly, 1924. Racial Fectors in Juvenile Delinquency, Int. Cong. Panamerican, 1916, Washington, D. C. Williams, Tom. A. "Dreads & Besetting Fears," 1923. Juvenile Psychasthenia. Am. J. Med. Sc., 1912. Psychoneurotic Disorders in Childhood. Jl. Abnormal Psychol.,

SUDDEN DEATH FOLLOWING INJECTION OF MERCURIAL DIURETIC

(G. G. Richards & L. G. Moench, Salt Lake City, in Rocky Mountain Med. Jl., Aug.)

A 59-year-old white mother of six, first seen May 9th, 1941, with dyspnea, fatigue and edema all coming on following a cold in November, 1940. History given of an attack of rheumatic fever in childhood and a questionable attack in 1940, thyroidectomy in 1932 and a hysterectomy in 1935.

The b. p. was 142/82; pulse 112, regular. Slight dyspnea and cyanosis even at rest. The heart measured 3 cm, to the r. 9 cm. to the l. of the midsternal line in the fifth interspace, with a wide apical pulsation. No murmurs were heard. Basal rales were heard in both lungs. The liver was 4 cm, below the costal margin in the mid-clav. line, with 12 cm. vertical dullness. Extensive edema in the lower half of both legs. Hemoglobin 100, reds 5,270,000, whites 14,700; Kahn and Eagle tests negative; urine 1.013, acid, 3-plus albumin (no albumin six months later), occasional hyaline cast, and six w. b. c. per h. p. f. No red cells in the urine on repeated examinations. The basal metabolic rate was plus 13%. On July 17th the blood urea nitrogen was 18.4 mg. per 100 c.c.

Our diagnosis was post-rheumatic and post-thyrotoxic heart disease. The patient was put to bed and given digitalis. After one month considerable improvement had occurred, and she was allowed to get out of bed. The edema returned promptly. The patient was placed on a sodium, acid-ash diet, and given weekly intravenous injections of salyrgan-theophylline, 2 c.c., supplemented by ammonium chloride. She developed persistent auricular fibrillation, then ascites and a right pleural effusion. She was treated in the hospital Nov. 4th to Nov. 15th and the r. pleural effusion drained twice 800 and 850 c.c. straw-colored exudate. Digitalis salyrgan, ammonium chloride and the low sodium, acid-ash diet were continued.

The patient returned home against advice, and required a thoracentesis at home, with continuation of weekly injections of salyrgan-theophylline 2 c.c. On Dec. 5th, 1941, the patient was alert, but dyspneic and cyanotic. Moderate ascites was still present and many basal rales were heard, but there was no recurrence of the pleural effusion, Twelve hours previously the patient had suffered a sudden pain in the left chest, presumably a pulmonary embolus. Two c.c. salyrgan-theophylline was given intravenously very slowly. During the injection the patient complained of "jumping of the heart." By the time the stethoscope could be placed, the heart was no longer beating; the patient gasped and died. Autopsy permission was refused.

EXTRA UTERINE PREGNANCY FOLLOWING A HYSTERECTOMY (B. F. Shreffler & R. F. Zeller, Mansfield, in Ohio State Med. Jl., Sept.)

A white woman, 35, mother of two normal children delivered by normal methods, had a hysterectomy two years ago by the usual abdominal low incision, the uterus being incised at the corporocervical junction with closure of the salpinx and remaining uterine tissue over the cervical stump, leaving the ovaries and tubes. Following a normal recovery with no symptoms except at each regular menstrual period a slight flow of menstrual blood lasting two days, until December, 1942; then cessation of menses, lassitude and increased appetite. January, 1943, again no menstruation and February the same. The middle of February the patient had sudden pain at the area of the right-salpinx severe enough to keep in bed three days. With this pain there was nausea and a burning of the breast tissue. A visit to the physician's office revealed only a mass above the symphysis which on vaginal examination was found attached to the cervical stump in the area of the right salpinx and ovary. The mass was freely movable without pain and was diagnosed probably ovarian cyst. The cervix was discolored and the cervical stump freely movable.

The middle of April the mass was nearly up to the umbilicus and three inches on either side of the midlinean ovarian cyst probably on a twisted pedicle. Surgery was immediately suggested to the patient. She did not go in the hospital until the first week in May. At this time the t., blood count and physical findings were all normal except this freely movable mass. No x-ray or other test was made.

The abdomen was opened through the previous hysterectomy scar with the diagnosis of ovarian cyst, a large pedunculated mass attached to the cervical stump and extending above the umbilicus by an inch was exposed. It ruptured, spilling its contents of amniotic fluid and a fetus of five months.

The origin of the placenta was the remaining cervical uterine tissue with slight increase from the pregnancy and the right salpinx.

If more serious study had been given this case, with an x-ray film, or if even the slightest suspicion of pregnancy had been present, later surgery probably would have produced a live baby.

THYROD, to tolerance, taken regularly over a prolonged period, is effective in correcting premenstrual distress in a high percentage of cases. Premenstrual headache and nervousness are the most responsive to the treatment.-Hudgins.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

THE WRONG WAY

THE SO-CALLED PUBLIC INVESTIGATION of a hospital for the care of the mentally sick is usually precipitated by charges preferred against some official or some employe of the hospital by a patient, by a former patient, or by some patient's relative or friend. Many intelligent people are inclined to accept as factual the statements of an irrational, mentally sick patient.

Not every mentally sick person exhibits delusional ideas, but most of them do; and a delusion is much more than a mere mistaken opinion. Although a delusion is not true, it is true in the opinion of the person who holds the delusion. And the irrational idea constitutes a much more vigorous driving force than a rational opinion.

Many mentally normal people, all of whose thinking is reasonably sensible, do not bother to put many of their ideas into action. The deluded individual feels impelled, however, as a rule, to translate his irrational notions into behaviour. And the delusional idea, transformed into behaviour through physical activity, is manifested as abnormal conduct. If the motivating mental state is unsound, the resultant action will be abnormal. The chief symptoms of mental disorder are exhibited through behaviour; and the diagnosis of mental unsoundness is made principally by the observation and the interpretation of the individual's conduct. So valid, indeed, and so sensible the delusions are, in the patient's opinion, that it is not possible for him even to entertain the notion that they may be untrue. No rational idea can be as sound in the well person's opinion as the delusion is rational and valid in the irrational patient's belief.

The deluded patient cannot easily, if at all, by voluntary effort, correct the delusions. The patient cannot even believe that the delusions are unsound ideas. And most mentally sick folks interpret all that transpires around them in terms of their delusions.

There are many forms sof irrational thinking, and the popular notion that all of the so-called insane are unhappy and miserable, is far from true. It is probably true that some persons never experienced boundless happiness until they became mentally unsound. I have witnessed occasionally the return to normal unhappiness of a convalescent

mental patient. Not infrequently the journey from the world of unreality back to the life of reality demands a heavy payment.

Many units of government provide hospitals for the care and treatment of mental patients. All of the states in the Union maintain such hospitals. The federal government makes provision for many such patients. Some of the smaller governmental units provide medical care in hospitals for psychiatric patients. The City of St. Louis, for example, maintains the City Sanitarium—an institution differing little from a state hospital.

In such hospitals in the United States there are probably more than half a million patients. Most of the patients were legally adjudged to be insane and were committed by law to the hospitals. Such a legal procedure was necessary because most of the patients could not believe they were in need of hospital care; and, consequently, they would not go to state hospitals voluntarily, as most patients of willingly to general hospitals. The majority of mentally sick folks would not remain in hospitals, and some of them believe they are kept confined because of the malignant attitude of others. The more unfit they are for discharge, the more likely are they to complain against the detaining authority.

From such patients come most of the complaints upon which are based charges against the management of state hospitals. Many patients who are wholly incompetent to manage their own lives and to sustain themselves by any method insist by implication that they are thoroughly capable of managing a great state hospital. Those who live with such patients and who understand their psychic functioning and their general attitude towards life do not believe that such patients are consciously untruthful when they lodge grave charges against those who care for them. Irrational patients are not concerned about truth. Usually they do not feel like bothering to ask Pilate's question. They are interested, as most of the rest of us are, in having their own way. They are anxious for their ideas to have acceptance. They would have others to see the world from each of their little hill-tops.

Few lay people have had any experience with the thinking of mental patients. They are likely to adopt an extreme opinion; either that the mental patient is entirely well, or that the patient is altogether without intelligence. Usually neither extreme view is sound.

I have had some experience with the public investigation of several state hospitals. Usually such an investigation has been carried out by a group appointed by the Governor. Most Governors are lawyers. Consequently, the examination of the

operation of the hospital that cares for sick people is made by a group of lay people headed by a nawyer. Much publicity attends such a procedure. The discussion of the personalities and the characters of those who head the hospitals under investigation come to occupy the thought of the investigators and of the public, and the patients are finally all but forgot.

It is as difficult for me to understand how I could go about developing an understanding of the activity of the United States Supreme Court for the last ten years as it is for me to understand how a lawyer, untrained in medicine, in nursing and in hospital management, can develop much understanding of the activities of a great state hospital. Most lawyers in health stay away from such hospitals.

I am not at all certain that I have ever known good to result from a so-called public investigation of a state hospital; improvement in the hospital may come after, but not because of, the investigation.

No Board of Directors of a state hospital should presume to investigate charges preferred against the management of any hospital under the Board's control. Investigation of the hospital should include investigation also of the Board of Directors. It would be ludicrous if it were not tragic to contemplate a Board of Directors examining with judicious dispassion the management of a hospital placed under the Board's care by the Governor. The examination of the work of a state hospital, and of all those connected with the hospital, should be carried out by those competent to do it, in training, skill, experience, and in courage. Such a small group would include a psychiatrist, fitted for the duty; a nurse, equally as skilled in her work; a dietitian; probably an occupational therapist; and a business man, familiar with economics and accounting. If the latter member were unfamiliar with agriculture and live stock, such knowledge should be obtained. No member of such an investigating group should have any connection with the state government, with any one connected with the hospital or with the Board.

A state hospital is a world of its own, and it must be known as it is and the purpose for which it was created and for which it is maintained; and the investigating body should thoroughly understand the normal functioning of such a hospital.

HOOKWORM

(C. C. Fenton, Morgantown, W. Va., in W. Va. Med. Jl., Oct.)

Anemia, the most important symptom, is usually hypochromic and microcytic; eosinophilia is from 5-15%, up to 90%. In advanced cases the eosinphils tend to drop.

There is irregular or intermittent fever in many cases. When the eggs are scarce some method of concentration is to be used before the microscopic examination. A light, fat-free meal is taken the evening before treatment is begun. In cases of constipation, a cathartic. Breakfast is omitted: For adults 3 c.c. tetrachlorethylene followed in two hours by a saline cathartic. The dose for children is 0.2 c.c. for each year up to age 15. In cases complicated by an ascaris infestation, hexylresorcinol is given, this followed by tetrachlorethylene.

For the anemia Blaud's pills and a diet rich in iron, vitamins and protein.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

URINARY INCONTINENCE IN THE FEMALE

URINARY INCONTINENCE in the female may take the form of dribbling or of continuous wetting. The latter is almost always due to vesico-vaginal fistula.

Sure¹ has suggested a clasification of these cases, based on the cause of the incontinence, as follows:

- I. Incontinence from overflow.
 - A. Strictures of the urethra.
 - 1. Traumatic with loss of tissues and connective tissue scarring.
 - 2. Inflammatory, reducing the lumen of urethra.
 - B. Foreign bodies blocking the urinary path.
 - C. Outside tumors pressing on the urethra, as tumors of the cervix or those in the anterior triangle blocking the flow of urine.
 - D. Atony of the puerperal bladder.
 - E. Senile atrophy of the bladder.
 - F. Interference with nerve mechanism of the bladder.
 - G. Comatose conditions affecting the higher centers.
 - H. Cystourethrocele.
- II. Incontinence without retention.
 - A. Inflammatory condition of the trigone where the bladder will not hold much urine.
 - B. Mechanical factors.
 - C. Retroversion of the uterus with the cervix under the bladder neck.
 - D. Loss of tissue about the bladder neck as in tuberculous ulceration.
 - E. Damage to the urethra (puerperal), with scarring and adhesions to the rami of the pubes or the lateral connective tissue structures.
 - F. Fractures of the pelvis involving the urethra.
 - G. Functional as in hysteria.
 - H. Atonic sphincter in old women with atrophy of all genito-urinary organs.

I. Vesico-vaginal and uretero-vaginal fistula.

When overdistention of the puerperal and postoperative bladder causes this condition, diagnosis may be made by the large amount of residual urine per catheter. For prophylaxis, leave one ounce of one-half per cent mercurochrome in the bladder. In some cases, an indwelling catheter gives satisfactory results.

The vaginal smear technique may be used to diagnose senile atrophy of the bladder. These cases respond to estrogenic substance.

Dribbling due to strictures of the urethra may be treated with the Hegar set of cervical dilators.

"Non-senile atony of the urethral sphincter gives excellent results by voluntary contractions of the sphincter over a Hegar dilator and then relaxing, permitting the flow to start again. Such patients should try emptying the bladder every two hours, going through these maneuvers each time."

Repair by the Manchester method is recommended for cystocele.

Retroversion of the cervix under the bladder neck may be operated on using the Gillian form of suspension.

Tumors of the cervix and of the anterior triangle should be removed.

Where the urethra stays open because of adhesions, these should be freed. "The operation of Martius using the bulbocavernosus muscle and fat and bringing it into the vagina as a support has given very good results."

1. Urinary Incontinence in the Female. Urological and Cutaneous Review, July, 1943.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

SPONTANEOUS PREOPERATIVE DISTEN-TION OF THE FEMALE URINARY BLADDER WITH AIR

To be sure that the urinary bladder in women with pelvic disease is empty before laparotomy we have these patients brought to the operating room with a soft rubber catheter already placed in the bladder. After the patient is anesthetized, the catheter is withdrawn as pressure is made above the pubes to insure the escape of all residual urine.

In a recent case, after this had been done, we were critical of the nurse when, through a midline incision, the patient's bladder was found to be so distended that it filled the pelvis. As compression of the bladder failed to empty it the lower end of the laparotomy sheet was raised and the catheter replaced. No urine escaped; the distention was from air which escaped through the catheter when the bladder was compressed. Apology to the nurse was in order.

The air-filled bladder at operation was a novel condition to us. However, we have since learned of a similar case in the practice of a local surgeon. The explanation of the phenomenon is evident. The wonder is that the entrance of air into the bladder is not more frequent in patients having spinal anesthesia who are prepared for operation in this way. The patient's body is forcibly flexed as the head and the knees are pulled together to widen posteriorly the spaces between the vertebrae. to increase cerebrospinal pressure and to make the dura tense so that passage of the needle between vertebrae and penetration of the dura may be facilitated. Then, when the patient resumes the supine position after having had the body flexed and the knees pressed against the abdomen, there is created a negative intra-abdominal pressure which causes distention of the bladder by permitting the passage of air into it through the catheter. If the bladder is emptied by pressure over the suprapubic region and the catheter is removed while the bladder is empty, it will remain so. It is of interest to note that the sphincteric mechanism at the bladder stem is as effective in controlling the escape of air as it is of urine.

CLINICAL CHEMISTRY and MICROSCOPY

J. M. FEDER, M.D., Editor, Anderson, S. C.

THE RH FACTOR—A NEWLY-DISCOVERED HAZARD IN BLOOD TRANSFUSION

Some Questions and Answers

Q. What is the Rh (first 2 letters of Rhesus) factor?

A. In 1940 Landsteiner and Weiner discovered in human blood the same factor which had been previously discovered in the blood of rabbits following the injection of rabbits with the blood of the Rhesus macacus monkey. The serum of these rabbits was found to agglutinate the cells of the monkeys, and those of 85 per cent of humans. The humans whose cells are agglutinated by this immune serum are Rh-positive, those whose cells show no agglutination Rh-negative.

Q. Assuming a patient to be in the same blood group with the prospective donor and that cross-matching by the routine method is satisfactory, what is the relationship borne by the Rh factor?

A. Regardless of the accuracy of the orthodox tests for compatibility, if the patient happens to be an Rh-negative, and Rh-positive blood is used. there is risk of a severe hemolytic reaction.

Q. How can we determine if a person is Rhnegative or positive?

A. Having procured serum containing the Rh-

negative agglutinins*-

1. Make a 2% solution in saline suspension of the cells of the person to be tested.

2. Place a drop of the cell suspension and a drop of the known Rh-negative serum in the bottom of a small test-tube.

3. Mix by very gentle agitatiton and place in a water bath at 37° C. for one hour.

4. Centrifuge at 500 r.p.m. for one hour and inspect for clumping, macroscopically or by placing a few loops of the mixture on a slide and examining with the low-power lens.

Q. What is the interpretation?

A. Clumping means Rh-positive, no clumping Rh-negative.

Q. Is there any precaution to be taken in the amining with the low-power lens.

A. The cells should be examined beforehand to rule out the possibility of autoagglutination.

Q. What patients should be submitted to the Rh determination before transfusion is given?

A. (1) The pregnant woman, (2) any patient who is expected to require a large number of transfusions, and (3) the erythroblastotic infant.

Q. Assuming that only 15% of the population is Rh-negative, wouldn't it be extremely unlikely that a suitable donor could be found in an emergency?

A. Yes. For this reason, each community blood bank center should build up a register of Rh-negative individuals who could be called upon in an emergency.

Q. Are the customary compatibility tests required in these cases?

A. Certainly, yes.

Q. What relationship does the Rh factor bear to erythroblastosis fetalis (hemorrhagic disease of the newborn, etc.)?

A. In the case of an Rh-positive father and an Rh-negative mother the Rh factor is transferred from the father through the placenta into the blood of the fetus as a mendelian dominant trait. The mother develops anti-Rh agglutinins which in turn cause hemolysis of the fetal blood. This is the etiological factor in erythroblastosis fetalis and other hemorrhagic manifestations appearing immediately after birth.

Q. For what patients should Rh-negative donors be available?

A. (1) The Rh-negative pregnant woman, (2) the Rh-negative who must receive many transfusions, and (3) the erythroblastotic infant.

Q. If testing serium is not available, is there some safe test that can be applied in an emergency?

A. Levine advocates the following:

rurchasable from Certified Blood Donor Service, 146-16 Hillside Avenue, Jamiaca, New York, at about \$5.00 per c.c. 1. Incubate a mixture (several drops of each) of the patient's serum and a 2% suspension of the prospective donors cells at 37 C. for 30 minutes.

2. Re-suspend the sediment and examine microscopically for the presence of agglutination.

3. Agglutination meansincompatibility.

We have found this method not overly satisfactory owing to the varied titers of agglutinins in the patient's serum.

Q. From what sources can more comprehensive information concerning this subject be obtained?

A. Several of the new textbooks contain some information. The most useful to us have proved several mimeographed sheets kindly supplied by Dr. Roy Kracke, Emory University School of Medicine, Atlanta.

Acknowledgement is hereby made to Dr. Kracke, with appreciation for this material from which we have freely quoted.

ADDENDUM

For the past several years, this writer has observed experiments by our group and those of others in the use of vitamin K as a prophylactic agent in hemorrhagic disease of the newborn. All of us have found the results to be not uniformly satisfactory. In the light of the work that has been done in connection with the Rh factor, we are very strongly inclined towards the belief that this element enters into the cases of the infants who die soon after birth as a result of hemorrhage, notwithstanding the proper prophylactic administration of vitamin K to the mother. Further, while an Rh-negative mother may bear one or two normal children to an Rh-positive father, once the erythroblastotic factor has been established, it is said to be impossible for that mother to again bear a normal infant from a Rh-positive father.

THE PHLEBOMANOMETER: A NEW APPARATUS FOR DIRECT MEASUREMENT OF VENOUS PRESSURE IN LARGE

AND SMALL VEINS

(G. E. Burch & Travis Winsor, New Orleans, in Jl. A. M. A., Sept. 11th)

The apparatus adapts the principles of the ordinary aneroid manometer for arterial pressure to a manometer sensitive enough to record venous pressure.

The sterile adapter and needle are removed from a sterile test-tube and connected to the rubber tubing leading from the recording portion of the apparatus. A 2% sterile aqueous solution of sodium citrate, which is stored in 1-c.c. glass ampules, is drawn into the glass adapter by negative pressure. The pressure within the system is returned to zero by means of the screw clamp. The needle is then inserted into the vein studied. The pressure of the blood within the vein slowly forces the meniscus of the citrate solution farther into the glass adapter.

A small needle makes it possible to make measurements in very small veins. The veins should be at least heart level or at a constant level, for before and after studies if the studies are used for comparison. The capillary pressure in the adapter is 2 cm.

The entire apparatus is no larger than an ordinary clinical aneroid, arterial blood pressure manometer. Frequently it is desirable to know the pressure in structures such as the hands, feet, abdomen and face, where only small veins are found.

The phlebomanometer may be used to measure tissue pressure, spinal fluid pressure, intrapleural pressure or wherever a water manometer is needed. This obviates the purchase of more than one type of water manometer for these various clinical purposes.

PEDIATRICS

THE CHOICE OF TIME AND TYPE OF OPERATION IN SURGERY OF EARLY LIFE

LACK OF APPRECIATION of all the factors often leads the doctor to advocate surgical procedures at disadvantageous times. Haste is not infrequently recommended when delay is more desirable, but perhaps more frequently delay is prescribed when prompt surgical intervention offers these young patients their best chance of recovery.

All doctors who have the care of babies and children are often confronted with this problem. Ladd¹ is very helpful.

Infants in the first 48 hours of life, we are reminded, stand major surgical procedures far better than they do a week or so later. In many cases the same type of operation is used on the child as on the adult when a different technique is indicated.

For an inguinal hernia in an infant the only truss that has proved useful in our hands is the simple yarn one. Most parents can be instructed in a few minutes and carry out the treatment successfully at home. In instances in which the truss is ineffective, due either to the size of the hernia or other causes, operation is resorted to regardless of age. A strangulated hernia in a month-old baby who had been born two months prematurely was given a permanent cure.

No transposing of the cord should be done in infants or young children. Soiling with urine can easily be avoided by applying a small collodion dressing to the wound and then when the child is placed in the crib his four extremities are tied to the four corners sufficiently tightly to prevent him from pulling off the dressing or turning over. A fracture cradle placed over the infant, then one end of a diaper under the buttocks and the other end is pinned to the top of the fracture cradle, catches all urine voided by an infant of either sex and keeps the dressing completely dry. If the use of the yarn truss proves effective and is well tolerated by parent and child, operation should be deferred until after the first year, longer by the surgeon who operates only occasionally on infants.

Infants whose umbilical ring will admit the tip

of the little finger and whose sac protrudes half an inch can almost always be cured by tongue-and-slot strapping with adhesive by a parent at home. The common practice of inserting a coin or a button into the ring is like putting one's foot in the jam of a door and trying to close the door. Larger herniae require operation. To prevent mental anguish, preserve the umbilicus.

The larger defects of the umbilicus should be operated upon as soon after birth as possible, because of danger of rupture and consequent exposure of the abdominal viscera to infection, because infants in the first 48 hours of life tolerate major surgical procedures far better than a few days later, and because of the likelihood of not being able to replace the abdominal viscera within the cavity due to intestinal distention or obstruction. A few hours spent in preparation with gastric suction, a rectal tube, and a tent with high concentration of oxygen may make the difference of being able or of not being able to return the viscera to the abdominal cavity. In case this cannot be done, the two-stage operation is required: 1st stage-the skin and subcutaneous tissues are undercut and freed so that they can be sewed over the viscera; 2nd stage, five or six days later, the abdominal musculature will have become stretched to allow a good and permanent repair.

Congenital diaphragmatic hernia is one of the causes of cyanosis, circulatory collapse or vomiting in the newborn. Sending the patient in the first 48 hours for surgical intervention will save many lives. Vitamin K or a small transfusion, gastric suction, a rectal tube inserted, and then the patient is placed in an oxqgen tent with high concentration of oxygen generally reduces to a minimum the amount of distention of the intestine. Cyclopropane is an appropriate anesthetic for these cases.

Symptoms of malrotation of the intestine may arise soon after birth and be those of almost complete obstruction, in which case an immediate operation is demanded, or those same symptoms may appear later in life and operation is to be done only if obstructive symptoms occur. In the cases in which midgut volvulus has taken place and the obstruction is almost complete, the first step is to deliver the whole midgut outside the abdominal wall; the usually clockwise twist untwisted, the congestion of the bowel is quickly relieved and its color returns to normal. The next step should be to expose the duodenum throughout its whole length, when, invariably, one will find some congenital bands which if not severed will cause return of the symptoms and probably a fatal outcome. The bowel is then returned to the abdominal cavity leaving the cecum in the left upper quadrant.

Congenital atresia of the alimentary tract may take place at any level. Until recently we considered the danger of perforation or gangrene in a case of atresia slight in the first week of life. In the last few months cases in which gangrene, perforation or both have taken place within the first 48 hours of life have occasioned a change of attitude.

Imperforate rectum and anus malforma can be accurately demonstrated by the x-ray examination without the use of a contrast medium. Taking a plate with the patient in the inverted position the site of the blind end of the rectum can be demonstrated by the contained air. It is unwise to attempt to bring the rectum down to the perineum when it is much over 2 cm. from the anus. When in doubt it is best to do a laparotomy and a simple colostomy high enough in the descending colon so that it will not hold up the rectum when that is brought down some weeks or months later. The rectal pouch is identified by passing a large rubber catheter to its bottom through the colostomy opening. It is helpful to have a catheter in the urethra so that it can be more easily seen and not injured.

A fairly accurate diagnosis of atresia of the small bowel may be made by x-ray examination without the use of a contrast medium. A primary anastomosis of the lateral type is to be done. If the atresia is in the duodenum a retrocolic duodeno-jejunostomy is best. In some instances this is very difficult and a duodeno-jejunostomy in front of the colon or a posterior gastro-jejunostomy may have to be substituted. This may have to be supplemented later by a duodeno-jejunostomy to prevent the reflux of the biliary and pancreatic juices into the stomach.

Until very recently atresia of the esophagus has carried with it a total mortality. The two main causes of death are starvation and aspiration pneumonia. Gastrostomy alone is almost valueless.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M. D., Editor, Charleston, S. C.

ADENOMA OF BRONCHUS

CLERF AND BUCHER (Annals of Otology, Rhinology & Laryngology) state that of bronchial tumors, since 1927 at Jefferson Hospital 35 were diagnosed adenoma of the bronchus. These tumors were at first diagnosed adenocarcinoma; but it was subsequently noticed that they did not metastasize and were not affected by x-ray treatment, but responded to bronchoscopic removal and electrocoagulation. Early reports on these tumors indicated that they were rare, but 12 per cent of 278 epithelial tumors were found to be adenoma.

Three of the patients were between 18 and 20. 12 between 20 and 30, 3 between 31 and 40, 11 between 41 and 50, and 5 between 51 and 60 years, The oldest patient was 61. This is in great contrast to the age incidence of carcinoma. The symptoms of adenoma of the bronchus were ascribed to bronchial irritation and obstruction, according to location of tumor and degree of obstruction. Earliest manifestation of symptoms was not easy of determination. Many had been ill for long periods. and showed definite pulmonary changes. Some of the symptoms were similar to those of advanced tuberculosis. Cough was the most common symptom, hemoptysis the most alarming. The cough was usually worse at night, and, if pulmonary suppuration was present, was of the character seen in bronchiectasis. Pulmonary hemorrhage as an initial symptom was seen in five cases, and in two the hemorrhages were massive, requiring transfusions. In one other case the hemorrhage was thought to be caused by cardiac disease, until an x-ray film shadow suggested a tumor. The hemorrhages were usually of sudden occurrence, in several cases at the menstrual periods.

Wheezing was the initial symptom in four cases, and it was noted during the course in seven others, in two of which it had been treated as allergic. Fever, pain in the chest and dyspnea were frequent in patients who had a superimposed suppuration distal to the tumor. Pulmonary fibrosis and bronchiectasis occurred in some cases, and in 15 there was atelectasis of one or more pulmonary lobes. In seven cases indefinite findings led to clinical and x-ray diagnoses of suppurative bronchitis. In two others a negative report was made, although there was history of wheezing and blood-tinged sputum. Many of the cases had shown symptoms and signs and x-ray evidences of pulmonary disease for many years. Periods of acute infection with increased obstruction and retention of secretions gave rise to diagnoses of pneumonia; four patients gave a history of frequent pneumonia, while one had two attacks of "pneumonia" each year for a period of three years. It was not uncommon to elicit a history of frequent attacks of pleurisy.

In 20 of the 35 patients these symptoms were of more than two years duration, the longest being 8 years. In only 7 patients had the symptoms continued less than one year, and in two of these the first symptom was a large pulmonary hemorrhage. A diagnosis of bronchiectasis was made on the instillation of iodized oil in six cases. The authors stress the division into three different types and that this fact has been largely responsible for the variety of names applied to the lesions but that it is of more importance for not confusing adenoma with carcinoma. While occasionally a pedun-

culated growth is seen, the tumor is usually attached within the main or lobar bronchus and is

Bronchial obstruction, severe hemoptysis, suppuration, pulmonary fibrosis, bronchiectasis and pleural changes determine details of treatment. In only three cases did the usual x-ray examination demonstrate the presence of an extrabronchial part of the tumor. It was found that, after years of freedom from symptoms and no recurrence of the growth endobronchially, progressive narrowing of the lumen of the bronchus was continued by an intra- or an extrabronchial growth. As a rule the bronchiectasis of these cases is not fetid, and bronchoscopic drainage materially improves the patient's condition. If the air-way is not maintained removal of a lobe or a lung will give the best prognosis.

The authors list four deaths resulting from the tumors-two from bronchiectasis, one from pneumonia, and one from carcinoma which developed from the site of an adenoma of five years duration. There were four deaths due to unrelated causes, one of the patients having been free from the tumor for eleven years. Seven of the patients are well and, though showing evidence of remaining tumor, are free from symptoms; four still have tumors with symptoms-three of these having bronchiectasis, and the fourth has paroxysms of coughing with occasional infection distal to the tumor. Two patients still have bronchiectasis, although they have been tumor-free for seven and 10 years, respectively. Seven are tumor-free, and have been for periols of five to ten years, and are free of symptoms. Three patients have been treated by lobectemy, two by pneumonectomy. The one operative fatality was in a case with a complicating empyema. X-ray treatment caused no improvement in the condition.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

ULCER OF THE CORNEA AT THE SITE OF THE CORNEAL SUTURE WOUND IN CATARACT EXTRACTION

WITHIN THE PAST TWO YEARS the writer has had two patients to develop an ulcer of the cornea where the corneo-scleral suture passed into the cornea preliminary to cataract extraction. Both patients were negro women, one 67, the other 70 years of age.

Each gave the history of having had multiple chalazia of the lids of each eye over a period of years. Such was their condition when presented for cataract surgery through the local Charity Clinic. Each patient's vision was light perception, only, in each eye. These patients, as in all such in this area, had had a thorough physical examination prior to cataract surgery and in these two there was nothing noteworthy relevant to their physical status other than their age and a mild degree of inanition. In each case cataract operation was deferred for 4 or 5 months in an attempt to improve nutrition and to cure or arrest the chalazia. In regard to the latter all were thoroughly removed from the lids of each eye, the lids frequently treated by expression of the glands, the sacs treated with sulfate of zinc drops, zinc sulfathiazole ointment 2 per cent and sulfathiazole 5 per cent.

After a period of one to two months without further evidence of the presence of chalazia or other lid disease operation was done. The usual preöperative technique of cleansing the sac and lids was performed and lid margins painted with 2 per cent tincture of iodine. Intracapsular extraction was done in both cases via keratome incision completed with scissors. A 3 or 4 millimeter flap was made from 9 to 3 o'clock prior to the section, a corneo-scleral suture placed at noon position, and a suture in the mucous membrane at each angle. A small iridectomy was done and delivery of the lens was accomplished without complications.

Convalescence was uneventful until the 5th day in one case and the 7th day in the other when it was found that there was a moderate indurated and swollen area of the upper lid of the eye operated upon which was due to a chalazion. There was no purulent discharge into the sac. Two days later an ulcer developed at the site of the corneal suture wound. The suture was immediately removed, hot fomentations applied, atropine and dionin instilled and the sulfa drugs used locally and by mouth. In one case recovery was made with fair vision; in the other, which was complicated with a severe and protracted uveitis, with light perception only. In neither case did the ulcer perforate the cornea, nor was the ulcer larger in diameter than a cigarette. Each ulcer was round, slightly umbilicated; neither tended to undermine or spread into adjacent corneal tissue. Limbal vessel loops were slow in invading the cornea to the ulcerated area.

Recovery occurred within three weeks.

These cases, or any case presenting a history of a chronic inflammation of the lids, the lachrymal apparatus or the globe, suggest the inadvisability of using a corneo-scleral suture in cataract surgery, although the condition or conditions have apparently been satisfactorily removed. A large mucous membrane flap dissected down to the limbus to the horizontal meridian of the globe on each side and sutured or not would appear to be the safest procedure in such cases.

SIMPLIFIED TREATMENT OF GONOCOCCIC OPHTHALMIA....
NEONATORUM WITH CHEMOTHERAPY

(M. L. Blumberg & M. Gleich, New York, in Jl. A. M. A., Sept. 18th)

Patients are now treated routinely with nothing but sulfathiazole by mouth. Local therapy and mechanical protection of the unaffected eye are apparently unnecessary.

Sulfathiazole in doses of one grain per pound of body weight daily cured our patients and prevented complica-

tions.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

CONGENITAL AND ACQUIRED SYPHILIS IN INFANTS AND CHILDREN

WHETHER OR NOT the rapid treatment of syphilis will turn out to be best generally remains to be determined. Syphilis of infants and small children seems to demand the taking of any reasonable chance for overcoming the disease process and checking its ravages at the earliest possible moment.

A report¹ from Chicago:

A series of 32 infants and children with congenital syphilis and four children with early acquired syphilis were treated for five days with massive dosage of mapharsen intravenously. There were no serious toxic reactions and there was no mortality.

Extremely debilitated infants observed in the neonatal period and those seen in the first half-year of life with evident syphilis of the skin, viscera or bones received a preliminary course of mercurial inunctions (1 Gm. of 10 per cent ointment) three times a week for two or more weeks until there was weight gain and clinical improvement. Anemia was treated by transfusion.

Mapharsen dosage in the first 11 patients was 1.6 mg. per pound of body weight a day. The absence of severe toxic reactions and our failure to obtain rapid serologic reversals prompted us to increase the daily dose per pound of body weight to 2 mg. (nine patients), 2.5 mg. (17 patients), and 3 mg. (three patients). The total dose for five days: first day of treatment 10 per cent; second day 15 per cent; third, fourth and fifth days 25 per cent. The drug was administered in 5-per cent dextrose solution using a continuous venoclysis regulated to flow 10 hours. The amount of solution used for infants 300-600 c.c. a day; for older children a maximum of 1000 c.c.

Toxic reactions of a minor degree were frequent. It was not necessary to discontinue treatment in any instance. Fever occurred in 29 of 40 treated patients, toxicoderma in five, urticaria in two, ery-

patients, toxicoderma in five, urticaria in two, ery
1. I. M. Levin et al., Chicago, in Jl. A. M. A., Dec. 26th,

thema in three. The eruptions usually on the first day of treatment and disappeared within two days. Vomiting occurred in eight of the 40 cases, abdominal distention in three. There were no serious toxic manifestations. Complete blood and urine studies throughout the period of treatment showed no evidence of any significant change.

VITAMIN B COMPLEX USED IN NEUROPSYCHIATRY

IN GENERAL PRACTICE we often need help with our patients who have mental illnesses. An article¹ offering such help in some of these cases is culled for the readers of this issue.

In mental illnesses, patients make attempts at starvation, often from ideas that food has been poisoned. Many patients show disinterest in food. Clinical syndromes are produced simulating the specific deficiency groups. These patients respond promptly to massive doses of thiamine chloride intramuscularly and the other parts of the whole vitamin B complex. Dramatic improvements are usual within 48 hours, although the basic psychotic features persist.

The cerebral complications of chronic alcoholism are more likely due to avitaminotic than to toxic action of alcohol on the nervous system.

These patients almost always have low vitamin C content of blood and spinal fluid. Peripheral neuropathy is present in 30 per cent. In spite of the fact that in such patients cerebral edema may exist the spinal fluid pressure is usually not increased.

Many patients with delirium tremens recover rapidly with salines and fluids however, nicotinic acid and thiamine chloride are of value in many others. We routinely place such patients on accessory medication with vitamin B₁ and nicotinic acid as well as the total B complex.

The 30 per cent of delirium tremens cases with peripheral neuropathy show pronounced response to massive dosse of thiamine chloride, intravenously or intramuscularly. The condition is bilateral, usually symmetrical; symptoms, numbness and tingling, then plantar dysesthesias and calf tenderness, and later loss of ankle and knee jerks, and position sense and light touch.

The more severe alcoholic disturbances are irreversible.

There has been described a nicotinic acid deficiency syndrome seen in alcoholics. The usual pellagra-like psychosis with disorientation, confusion and memory gaps may show periods of mania, depression and delirium with cogwheel rigidities previous to any other pellagra-like manifestations and are said to respond dramatically to massive doses of nicotinic acid along with adequate dietary

^{1.} E. E. Landis, Louisville, in Ky. Med. Jl., July.

regimen. Some says that this is an acute, rapid process, whereas in those cases developing pellagralike disturbances, the process has been chronic. The 95 per cent mortality has been dropped to 15 per cent where hydration therapy with nicotinic acid is used.

The use of vitamin B treatment of migraine headache, amyotrophies, neuralgias, etc., is often disappointing.

CARDIAC PAIN

We can hardly be reminded too often of the need to be constantly on guard against over- or under-estimating the gravity of pain in the chest, or of the great importance of prompt and correct diagnosis and treatment.

A Canadian doctor1 offers help.

Cardiac conditions are accountable for only a minority of chest pains. Other causes are intercostal neuralgia, myalgia, herpes zoster, neurofibromatosis, mastitis, mastodynia; disease of the ribs, cartilage, fibrous tissues or pleura; diaphragmatic pleurisy, pneumonia, bronchogenic carcinoma, embolism; inflammation, stricture, spasm or neoplasm of the esophagus; inflammation or tumor of the mediastinum; diaphragmatic hernia; ulcer or carcinoma of the stomach; gallbladder disease.

There are the apical ache of cardiac fatigue in valvular disease and the pain of pericarditis, aortitis and aneurysm. Probably commonest of all is that of cardiac neurosis, ucually apical and transitory, but it may simulate that due to any form of organic heart disease. The most serious is that due to coronary artery involvement, practically always substernal, but may be referred to chin, neck, point of shoulder or even the elbow.

A mild distress to the hoposensitive may be excruciating pain to the hypersensitive patient.

The term angina pectoris should be reserved for the condition in which substernal distress develops on effort or excitement and is relieved by rest or nitrites.

Common sources of error are radiculitis from dorsal arthritis, diaphramgatic hernia and the pain of functional heart disease.

Coronary insufficiency would seem as good a term as any for the clinical condition in which the patient suffers severe, prolonged, substernal pain, like angina in location, but unlike it in not being relieved by rest or nitrites; and like infarction in duration and severity, but unlike it in not being followed by evidences of myocardial necrosis.

Cardiac infarction should be the designation reserved for cases of severe, prolonged, substernal pain with shock, followed by fever, leukocytosis, increased sedimentation rate, occasional pericardial rub and typical ecg. changes. Let us as clinicians be satisfied to diagnose angina pectoris, coronary insufficiency or cardiac infarction and leave to the pathologists the decision as to thrombosis or occlusion.

In angina gr. 1/100 nitroglycerine will give most comfort, both after and in anticipation of an attack. Some take 12-15 tablets daily for years without ill effect. In a series of typical cases the author employed testosterone propionate (perandren) for men and estradiol dipropionate (diovycylin) for women-intramuscular injection of 25 mg, of the perandren and 1.0 mg, of the diovycylin every five days for 12 doses. Sometimes as soon as three or four injections (of either) had been given, the number of attacks of angina was less and the nitroglycerine required was reduced. In a few instances there was a surprising improvement in the sense of wellbeing and a relief from the symptoms of arthritis. In one case the angina was aggravated.

In coronary insufficiency only a short period of bed rest is required, and more important is the readjustment of the patient's general activity to prevent over-strain and worry. The use of xanthine derivatives, especially aminophyllin, is indicated.

In cardiac infarction relief of the pain usually requires large doses of morphine. Inhalations of 100 per cent oxygen through a nasal or naso-oral type mask is useful. Following the initial shock the routine use of aminophyllin by mouth seems desirable—enteric-coated 3-grain tablets two to four times daily. Theobromine or theobromine sodium acetate may be substituted. Bed rest is continued for four to eight weeks depending upon the size of the infarct as judged by the reaction. This is followed by a like period of convalescence, then a gradual return to activity is permitted. Many patients go on to complete recovery, but the uncertainty of the prognosis is well known.

CLINICAL DIAGNOSIS OF MILD GRADES OF CALCAREOUS STENOSIS OF THE AORTIC VALVE

(F. A. Willius, in Proc. Staff Meet. Mayo Clinic, July 28th)

The clinical signs produced by lesions of this grade are:
1) a rough but not unusually loud systolic murmur is heard best in the aortic region and is not widely propagated. It frequently is transmitted into the carotid arteries. 2) The systolic thrill is absent. 3) The aortic second tone is usually unaltered. 4) An aortic diastolic murmur is rarely present. 5) The pulse pressure and peripheral pulse are invariably normal. 6) Slight or no cardiac enlargement is the rule. 7) Special röntgenoscopic technic frequently but not always demonstrates calcium in the aortic valve. When present the calcium is situated chiefly in or near the annulus. 8) Electrocardiograms do not reveal any alterations or only left-axis deviation. Right-axis deviation or even the changes of right ventricular strain may occur when marked stenosis of the mitral valve coexists.

With these criteria in mind it becomes possible regularly to recognize the less advanced forms of calcareous stenosis of the aortic valve.

^{1.} G. F. Strong, Vanceuver, B. C., in Canadian Med. Assn. 11., 48, 318, 1943.

GYNECOLOGY

ABNORMAL VAGINAL BLEEDING

A JUDICIOUS DEALING! with the subject of vaginal bleeding reminds us that this symptom may mean much or little and tells us how to discriminate.

Scant vaginal bleeding in a newborn is not common. If it is the only indication of blood loss and the baby is otherwise healthy, no attention should be given other than cleansing. It is probably the result of withdrawal of maternal estrogen, and does no harm, then or later. If there is other evidence of blood loss, the possibility of hemorrhagic disease should be studied.

In childhood vaginal bleeding from causes other than trauma is rare. Before the age of 10, its portent is probably serious, and indicates search for granulosa-cell tumor of the ovary, hypophysial or adrenal tumors, or blood dyscrasia, notably purpura.

Late menstruation may mean nutritional inadequacy. Usually treat the whole girl, and let her pelvis alone, which proscription includes meddlesome endocrine therapy. Wise administration of thyroid often will improve general health and perhaps correct menstrual abnormalities. If general health is good, only one abnormality calls for correction, that of excessive blood loss when there is proved harmful effect on that individual. Most with scant menstruation at any age will be found to be in good general health. Offer them congratulations that they are less bedeviled than their polymenorrheic and hypermenorrheic sisters, and do not give them "shots."

If a female of any age shows evidence of masculinity along with her decreased menstrual flow, a tragic problem may be presented. Though endocrine correction of this situation should be attempted, the results will be disappointing in most cases.

Of amenorrhea, appearing after puberty, the commonest cause is pregnancy. Combat any general physical subnormality with early thyroid therapy. Bleeding can be produced by giving estrogen actively for 7-10 days, but this is of no benefit to the patient except perhaps psychologically. Except for rare pituitary disorders and some other constitutional conditions (notably tuberculosis), it is not an indication of serious import as to health.

Bleeding deviation in the 20-40 group is due more often to a pelvic lesion the diagnosis of which is reasonably easy. Many cases of abnormal vaginal bleeding in this age group have no discoverable pathological basis. Most of these women need only forceful reassurance. Few are the cases that require or will be benefited by "shots." Those bleeding more, or longer, or more frequently or spotting between regular periods, must be studied with great care. Most such cases will be found to have some definite lesion, trivial or grave, and treatment is not experimental or placebos, but the accepted and standard attack upon the lesion or lesions so discovered.

Women at the menopause and in the postmenopausal years who bled too much are going wrong, and the reason why they are going wrong must be found without delay.

TRICHINOSIS EPIDEMIC IN WISCONSIN

(T. L. Vogel, Milton Junction, in Wisc. Med. Jl., Set.)

The diagnosis of trichinosis may be difficult but, if suspected, can be fairly simple. Our criteria for a positive diagnosis were a history of eating summer sausage followed in a week or so by an illness. Summer sausage does not undergo either cooking or refrigeration. There was eosinophilia in all cases. Skin tests were done on the hospitalized patients, also muscle biopsies and spinal punctures. The skin test was made by the intradermal injection of 0.1 c.c. of a 1/10,000 solution of the antigen. The reaction was graded from a negative to a 4-plus response, depending on the size of the wheal and the area of the erythema.

An epidemic of 28 cases of trichinosis from eating summer sausage is reported with a diagnosis made by history, blood counts, and special tests, mainly the gastrointestinal tract, eyes, and muscles being involved. Chills and remittent fever with meningeal irritations were common. Cardiovascular signs, weight loss and cough were observed.

Eosinphilia was of the ascending type and of various degrees, the curve paralleling the course of the disease. Relative lymphopenia was common.

Blood counts and skin tests were taken, examinations of the sputum, spinal fluid and stools were made, and muscle biopsies were performed.

The acute phase was three or four weeks, with residual weight loss, weakness and eosinophilia.

Treatment was ineffective.

RIBOFLAVIN DEFICIENCY VERSUS PERLECHE
(P. H. Nippert & A. P. McGinty, Atlanta, in Jl. Med. Assn. Ga., Sept.)

Fissures at the angles of the mouth may be caused by ariboflavinosis or by a narrowed bite, or both. The cheilosis of ariboflavinosis usually will show other signs of the deficiency and will be cured by an adequate consumption of riboflavin. The cheilosis of perleche will be relieved only by correcting the anatomic defect that results in the intertrigo; this will usually require new, well-fitting dentures.

Cases in which there is both the vitamin deficiency and the narrowed bite require both vitamin therapy and dental adjustment.

PULMONARY TUBERCULOSIS and mitral stenosis are generally believed to be antagonistic, the one to the other. Certainly coexistence of the two conditions is rare. A case, with autopsy, is reported in the issue for September of the Rocky Mountain Medical Journal.

^{1.} A. C. Martin, Hempstead, N. Y., in Med. Times, Sept.

INSURANCE MEDICINE

H. F. STARR, M.D., Editor, Greensboro, N. C.

EFFECT OF EXCESSIVE ABDOMINAL GIRTH ON MORTALITY

A STUDY of the effect of excessive abdominal girth on the mortality of insured lives has been made by the Joint Committee of the Association of Life Insurance Medical Directors and the Actuarial Society of America. The material was divided into groups, depending on the degree of excess.

deaths from tuberculosis in any form. In a representative section of the material there were 6 deaths from myocarditis, endocarditis and pericarditis against less than one expected. An earlier study also showed a high mortality from pneumonia, cerebral hemorrhage, Bright's disease and diabetes, and a low mortality from tuberculosis.

In the section of cases issued insurance at substandard rates, the average age at entry was 45 which was 5 years above the general average.

TABLE I

Abdomen 21/4 to 3 inches greater than chest expanded

- (a) 0-29% overweight (b) 30-39% overweight
- (c) 40% or more overweight

	Exposed	Actual	Expected	Ratio of Actual to
	to Risk	Deaths	Deaths	Expected Deaths
(a) Issued Standard	5,653	61	43.33	141%±13
I-sued Substandard	4.739	76	46.59	$163\% \pm 13$
(b) I-sued Substandard	3,799	57	30.86	$185\% \pm 17$
(c) Issued Substandard	3,616	50	20.84	240%±22
(a), (b), (c) Standard	6,790	69	55.68	$124\% \pm 10$
Substandard	12,154	183	98.29	186% ± 9

The death rate from cirrhosis of the liver was 7½, diabetes 3½, Bright's disease 3, and from organic disease of the heart 2½ times normal. The death rate from tuberculosis of the lungs was much below normal, there being only one death against 10 expected deaths. In a representative section of the material there were 5 deaths from myocarditis, endocarditis and pericarditis against less than one expected. An earlier study also showed a high mortality from diabetes. Bright's disease and heart disease and a low mortality from tuberculosis of the lungs.

Summary of Classes of Excessive Abdominal Girth Combining the material for the two groups is-

sued insurance at substandard rates, we have the following results:

It will be noted that the mortality ratios increase uniformly with the degree of overweight.

Combining all of the data on excessive abdominal girth, the death rates from cirrhosis of the liver, diabetes and Bright's disease were 7, 4 and 3 times the normal, respectively. The death rates were also high due to organic disease of the heart, influenza and pneumonia, being 2¹/₄, 2 and 2 times

TABLE II

Abdomen over 3 inches greater than chest expanded

- (a) 0-29% overweight
- (b) 30-39% overweight
- 40% or more overweight

	Exposed to Risk	Actual Deaths	Expected Deaths	Ratio of Actual to Expected Deaths
(a) Issued Standard		24	20.00	120%±17
Issued Substandard		42	19.13	200% ±22
(b) Issued Substandard		26	11.02	236%±31
		31	13.12	236%±28
(a), (b), (c) Substandard	5,989	99	43.27	229%±16

The death rate from pneumonia was $2\frac{1}{2}$, from cerebral hemorrhage $2\frac{3}{4}$, and from Bright's disease $3\frac{1}{2}$ times normal. The deaths from cancer were $1\frac{1}{2}$, from organic disease of the heart $1\frac{3}{4}$, and from diabetes 5 times normal. There were no

the normal, respectively. Deaths from suicide were only one-half times the normal number expected. It is interesting to note that only one of the 377 deaths in all of the data on excessive abdominal girth was due to tuberculosis of the lungs.

TABLE III

	Actual	Mortality
	Deaths	Experienced
(a) 0.29% overweight	118	180%±11
(a) 0.29% overweight	83	198%±14
(c) 40% or more overweight	81	239%±17

PROCTOLOGY

RESSELL VON L. BUXTON, M.D., Editor, Newport News, Va

FOR A MINIMUM OF PAIN IN ANO-RECTAL SURGERY*

Pain is the presenting symptom in a large percentage of patients who have ano-rectal diseases. Therefore, it is absolutely necessary to relieve pain in order to give the patient adequate treatment It follows directly that a correct diagnosis must be made, and this in turn requires a thorough, painstaking examination

This examination is best made in the knee-chest position, with proper dignity, slow movement, and plenty of lubricant, or anesthetic ointment. I have found that the external application of an anesthetic ointment (Nupercainal, or Hasacaine) five to ten minutes prior to digital or instrumental examination will relieve the patient and give the proctologist the benefit of a more coöperative individual

Among the list of "don'ts" mentioned in Dr Pruitt's article are several with which I am taking exception—

The first of these is the interdiction of the soapsuds enema. While it may be true that the daily and continued use of soapy water is irritating to the rectal mucosa, this solution given as an enema has proved to be more eectual than the saline enema, and less strenuous for the patient than the glycerine or magnesium sulphate enema. In my opinion, the properly used soapsuds enema is perfectly correct.

The next thing that is forbidden is the use of the rectal plug following hemorrhoidectomy. At the Elizabeth Buxton Hospital for many years it has been our custom to use the "whistle-tube," a rubber tube covered with vaseline- or nupercaine-impregnated gauze. During the past six years, it has been used routinely on my service, following hemorrhoidectomy and removal of anal fissures. This tube is left in the anal canal for seventy-two hours following operation, and no ill effects have been seen. It protects against postoperative hemorrhage, keeps the anal sphincter continuously dilated and provides continuous local anesthesia for the raw surface.

There are other "don'ts" and many "do's" in Dr. Pruitt's article with which I thoroughly agree and many of which I do not hesitate to pass on to you, almost verbatim.

 Don't fail to separate the external anal sphincter—when it is spastic.

"This editorial is suggested by an article by M. C. Pruitt, M.D., of Atlanta, which appeared in the July issue of the Journal of the Medical Association of Georgia, is entulled, "The Problems Concerned in Decreasing Pain in Ano-Rectal Surgery," and was sent to me by the Editor of this journal, to whom I should like to express my appreciation.

- Don't use irritating antiseptic solutions in open lesions.
- 3. Don't fail to excise all blind sinuses leading from anal crypts.
- 4. Don't use sutures unless absolutely necessary
- 5 Don't kill or waste time while a patient is under anesthesia.
- Don't fail to give adequate drainage by extending incision well out onto the skin surrounding the anal margin.
- 7. Don't treat acutely inflamed thrombosed internal hemorrhoids as an emergency.
- Don't inject hemorrhoids unless you are familiar with anatomy of the parts and the technique of injection.
- 9. Do be gentle.
- Do remember to give adequate doses of morphine or pantopon following operations.
- Do give a cleansing enema of saline solution six to twelve hours prior to operation.
- Do use sulfanilamide or sulfathiazole powder in infected areas about anus.
- 13. Do remember that, in ano-rectal surgery as elsewhere, cleanliness is next to godliness, and that a hot sitz bath two or three times daily beginning the second or third day after operation will decrease pain and shorten convalescence.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

THE USE OF VITAMIN C AND NICOTINIC ACID IN BRIGHT'S DISEASE

ELEVEN YEARS AGO the author¹ expressed the opinion: "Bright's disease is not a primary disease of the kidney but is brought about by a metabolic breakdown." This failure seems now to be greatly influenced by a vitamin deficiency as shown by the rapid recovery of patients under vitamin treatment.

Dr. Daniel is still convinced of the truth of his conclusion and elaborates the thesis.

A man may have an extremely high np. n. and creatinine and still recover; a case is reported showing how desperately ill a man can be with hypertension, heavy albumin, retinitis, slight edema, and yet have practically normal blood chemistry and plasma proteins. Another had anuria of 5 days, high np. n. and creatinine and heavy albumin in urine: still another had albuminuria, retinitis and convulsions; two others were very ill—heavy albuminuria, high np. n. and creatinine, and edema. All recovered on vitamin C and nicotinic acid.

¹ J. W. Dand Savench, a H. Med. J. n. Ga. Sept.

In most cases with marked edema there is a low plasma chloride but after diuresis is established by the vitamins the plasma chloride increases. Some of our patients after diuresis had reduction of edema, but they did not become entirely free of edema until they had consumed and converted sufficient exogenous proteins to restore the colloidal albumin to normal. Patients that were unable to do this in the beginning of treatment were very slow in recovering; and some never completely recovered, but all improved.

In all of these we have been impressed with the remarkable diuretic effect and the rapid lowering of np. n. and creatinine, the reduction of albumin in urine, the return of plasma proteins to normal and the general feeling of well-being. Children with marked edema do not respond well to treatments. Those without or with a slight edema make a good recovery if treatment is begun at once, and proteins are not withheld from the diet.

We watch the np. n. and creatinine records while patients are taking a high-protein diet; and if there is any increase, we discontinue the meat proteins temporarily and give fruits, vegetables and milk. As soon as the np. n. becomes normal we add proteins in small amounts and increase them as the patient improves. No salt is given if there is edema.

In all cases of children a history of throat infection was given. Usually no physician was consulted. Edema was the first symptom that attracted the attention of the parents. All children having sore throat have urine examined for six weeks or longer; all children treated had a very high leukocyte count, some as high as 16,000. The leukocytosis became normal within a few days after treatment with the two vitamins.

In diagnosis we must first free the heart of suspicion as the cause of the ascites or generalized edema. Test the kidney function to see if there are enough nephrons active and capable of carrying on a normal elimination of solids. The psp. test is not to be relied upon. The eyes should be examined. Often the patient whose case looks hopeless will recover.

It has been found that several patients would continue to show albumin in urine with heat and acetic acid test, and also an abnormal amount of white cells in urine with only an occasional red cell. By precipitating the globulin from the albumin we found the greater part of the precipitate to be globulin. Patients that are found to have this condition are given some form of mendelic acid and ammonium chloride with a rapid diminution of the proteinuria, globulin and pus. During this treatment the pH of urine is closely watched to see that it is kept acid.

A FURTHER AID TO VENIPUNCTURE

Entering the vein may be difficult in cases of shou anemia, dehydration. A 21- or 22-gauge needle (or smaller) is inserted into a vein on the back of the hand or the cephalic vein at the wrist, connected with venoclysis a system and saline solution allowed to enter the vain. A tourniquet is placed around the arm just above the elbow to cut off the venous return. The saline solution will distend the vein and its communications and a vein at the elbow may be punctured with a much larger needle. After removal of the tourniquet, intravenous therapy with the desired fluid may be instituted.—Anesthesiology, Sept., 1942.

Jaundice One to Four Months After Transfusion of Blood or Plasma

(P. B. Beeson, Atlanta, in Jl. A. M. A., April 24th)

Seven persons who had received transfusions of blood or plasma at the time of injuries or surgical operations became ill one to four months afterward, with symptoms resembling those of catarrhal jaundice. It is suggested that these illnesses were probably caused by the transfusions.

DENTISTRY

J. H. GUION, D.D.S., Editor, Charlotte, N. C.

DISCUSSION ON ULCERATIVE GINGIVO-STOMATITIS (TRENCH MOUTH)¹

The disease does not occur in clean mouths. One sees many cases in which the eruption of a lower third molar has precipitated a localized ulceration of Vincent's type, whereas the incidence following dental extractions in mouths which have a high degree of sepsis is very low. It seems that the socket and clot are well able to look after themselves and that the resistance of the area is not lowered and may even be raised by the hemorrhage. Avitaminosis and debilitating conditions have an important bearing on both the incidence and the duration.

In such cases the treatment of pyorrhoea is an intimate part of the cure of the fuso-spirochaetosis and in this respect the correction of the acid-base balance is essential and without such correction the pyorrhoea will progress and the syndrome recur.

The cure of the disease is swift and sure by application of peroxide of zinc to the local lesions, and the injection of arsenicals intravenously and the removal of all stagnation areas.

Peroxide of zinc ionizes slowly, the zinc ions exercising a steady and continuous action and the atomic oxygen released hinders anaerobic bacterial growth and toxin-formation. It is active against all anaerobic bacteria and the streptococcus, destroying or inactivating the haemolysins of the latter. The aureus is unaffected by it. It oxidizes bacterial metabolic products and is completely innocuous to human tissue.

^{1.} Surgeon Commander (D) E. R. Longhurst, R.N., Proc. Royal Soc. of Med. (Lond.), June.

I have also used it in association with mapharside powder and with sulphapyridine powder, but with no better results. Used as a 10 per cent paste with soft paraffin it is spatulated with cotton-wool fibres into firm pledgets and these are packed hard into interstitial spaces, beneath mucoperiosteal flaps, into pyorrhoea pockets and other stagnation areas that will retain them. Composition caps are moulded around areas difficult of retention, filled with paste and pressed home. Such caps, rewarmed, may receive the impression of the opposing teeth and are worn comfortably, even during meals. Cotton-wool rolls, impregnated, are laid in the buccal sulci and beneath the sides of the tongue. and napkins may be spread with the paste and laid against the palate. These can be folded back against ulcerated lips if necessary. Large ulcerated areas heal with remarkable celerity when so treated. The pledgets are changed daily and the rolls thrice daily-an intelligent patient may do the latter himself. After 24 hours the pockets are wide open and can be gently irrigated and a little preliminary scaling performed. Deeper scaling is done as the case progresses and finally necessary dental extractions and gingivectomy. All traumatized areas are kept packed and the eventual and generally rapid restoration of interstitial mucoperiosteal bridges and epithelialization awaited. The fact that no caustics are used increases the rapidity of healing.

Arsenic is injected intravenously on the first day and repeated as necessary on the fourth and ninth days. No toxicity has been noticed using mapharside or stabilarsen; 113 cases were treated by a combination of the two methods and averaged 8.18 days to cure. Eight cases treated by arsenic alone averaged 13.88 days; 53 cases treated by zinc peroxide alone averaged 10.08 days.

In two cases of great severity with marked toxaemia sulphapyridine was administered. These patients did very well and their temperatures dropped rapidly, but it was impossible to assess its effect on the local condition.

This informative article has been abstracted and is presented to the readers of this journal as a very encouraging account of the present status of English practice on this disease condition, of great interest to physicians and dentists.

SULFAMERAZINE

(W. H. Hall & W. W. Spink, Minneapoles, in H. A. M. A., Sept. 18th)

Sulfamerazine was administered to 116 patients having a variety of clinical conditions, 15 patients under one year of age.

Results: As effective as sulfadiazine in 40 cases of pneumococcic pneumonia or bronchitis; less effective than sulfathiazole in the treatment of staphylococcic sepsis, as good as sulfadiazine in streptococcic infections.

Two cases of meningitis due to type B influenza bacilli

and three patients with meningococcic meningitis recovered following therapy with sulfamerazine.

Compared to sufadiazine, sulfamerazine given orally is effective in smaller doses given less frequently, less toxic, caused less nausea and fewer skin eruptions; and less drug fever than sulfathiazole.

Two instances of nonfatal urinary tract complications were produced by sulfamerazine. There is evidence that an adequate fluid intake and alkalization of the urine may prevent such complications.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M. D., Editor, Greenville, S. C.

CHRONIC PEPTIC ULCERATION OF THE OESOPHAGUS

IT IS NOT GENERALLY KNOWN that there is such a diagnosable condition as peptic ulcer of the esophagus.

A Canadian physician¹ tells us what symptoms should arouse our suspicions, how these suspicions may be resolved, and what to do in such a case.

The clinical history in peptic ulcer of the oesophagus is in many cases that of gastric and duodenal ulcer. The burning pain behind the sternum, worse when the patient is lying down and especially when the pain radiates to the shoulders and down either one or both arms, makes the diagnosis of ulcer of the oesophagus probable. When oesoshows a short oesophagus and a diaphragmatic hernia, the diagnosis is established.

Cardiospasm or achalasia generally gives a long history, regurgitation of large amounts of mucus and food and usually no pain. In carcinoma of the lower end of the oesophagus usually there is early dysphagia and obstruction, pain only late in the disease. The x-ray appearance is generally characteristic. Biopsy from the edge of the ulcer usually decides the diagnosis.

Short oesophagus and diaphragmatic hernia without ulceration seldom gives rise to symptoms.

When the x-rays show no diaphragmatic hernia and no short oesophagus, but biopsy shows an ectopic gastric mucosa, the treatment of ulcer of the oesophagus is the same as for gastric and duodenal ulcer; but when the x-ray reveals a diaphragmatic hernia and a short oesophagus, the oesophageal ulcer will be in contact with the acid contents of the stomach at certain times when the cardiac sphincter is incompetent.

Fluids and semisolids should be taken at twoor three-hour intervals, no hot or cold fluids. So-lids generally cause discomfort and pain. The patient is more confortable in the sitting posture during the day and the head of the bed should be

t, E. F. Cleaver, Toronto, C.a. la, in Amer. H. Dig. Dis., Sec. .

raised at night to prevent the regurgitation of the acid contents into the lower end of the oesophagus. If this plan is not followed, frequently the patient complains of a burning pain in the lower end of the oesophagus that often radiates to the neck, shoulders and arms. Tincture of belladonna in doses of 15 to 20 minims should be given 15 to 20 mintes before each feeding, increased by five minims daily, until dryness of the throat or eye symptoms appear. A tablespoonful of mineral oil should be taken before each feeding. An alkaline mixture is sometimes helpful.

The author has found feeding by duodenal tube satisfactory. The tube is generally readily passed into the stomach with little discomfort, and six or seven feedings of milk, orange juice, liver extract, corn syrup and ascorbic acid should be given in 24 hours. The presence of the duodenal tube assists in maintaining the lumen of the oesophagus and may prevent stenosis or stricture. After the patient has been fed with the duodenal tube for three weeks, if any difficulty in swallowing is experienced, dilatation is necessary. Hurst mercury tubes sometimes relieve dysphagia but frequently it is necessary to use graduated Jackson's bougies. Operation was not done in any of our cases. When the ulcer has been healed, the patient should be placed on an ulcer regimen for several months. Infected teeth and diseased tonsils should be treated. If there are any missing teeth, proper dentures should be provided. Patients with oesophageal ulcer should be under careful observation for several months.

RESUSCITATION OF THE NEWBORN

(T. S. Gatewood, America, in H. Met Assect Ga. Sprin

It is customary to remove tenacious mucus from the oropharyngeal cavity by the finger. A more thorough job is done by following with a large rubber (ear) bulb syringe, aspirating the epiglottic region. There sometimes remains a plug of mucus in the trachea that cannot be reached except by an intratracheal catheter. Mouth-to-mouth artificial respiration is a good way of introducing oxygen into the fetal lungs if the pressure does not exceed 20 cm. of water. However, those patients who have their trachea obstructed by mucus will only get a belly full of air.

Stimulate gently by thumping the feet or gently patting the buttocks, and quickly provide the warmth to which be aby has been accustomed. Where apnea persists for over a minute introduce a laryngoscope and under direct vision a small stiff rubber catheter can easily be inserted into the trachea. Often this alone opens the air passage and respiration is initiated, but if not, air is blown into the lungs, being careful not to prevent a pressure of 20 cm. of water, thus preventing possible overdistension and rupture of the alveoli. When this method fails one can only look to the autopsy room for the cause of its failure. There are expepnsive apparatus on the market but none that provide better means of resuscitation than the simple ways described.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

A PLAN FOR THE USE OF BLOOD PLASMA IN RURAL COMMUNITIES

IN MANY CASES, by taking thought, the physician can bring hospital facilities to the patient and so obviate the need for taking the patient to the hospital.

An Oklahoma doctor¹ has worked out a plan for supplying blood plasma to rural patients.

He would list acute hemorrhage, purpura and hemophilia as the only condition in which fresh, whole blood transfusions are justified. It is much better to use plasma quickly in an acute hemorrhage than to wait for time-consuming, technical tests required to complete a whole blood transfusion. Pooled plasma is safe and convenient. No typing or matching is required. It can be given anywhere that any intravenous injection can be given. One or repeated plasma injections may be necessary to tide the patient over a danger period until whole blood can be given if whole blood is finally required.

In deciding between the use of plasma and whole blood, symptoms—blood pressure, pulse rate and quality and appearance of patient—are the surest guides. Then hemoglobin determination and red blood count. The hematocrit reading and protein determinations have been of little value in hemorrhages, while just the reverse is true in acute burns. If, with the clinical symptoms given, the hgbn. is 30 or less, whole blood is used; if the reading is above this point plasma will suffice.

Stored whole blood has been found useful if less than one week old to supply functioning red cells—the fresher the better.

The rural physician should have plasma at his disposal at all times. A modern biological laboratory and trained technicians are necessary for the production and this situation, up to the present time, has left the rural physician in an awkward position. Plasma may be purchased from commercial houses, but at practically prohibitive expense.

Every doctor has some connection with a hospital that maintains a blood-plasma bank. Any hospital with an average daily census of 50 patients that does not have a blood-plasma bank should proceed immediately to set one up. The hospitals with banks and those obtaining them should cooperate with the rural physicians, and for a reasonable deposit, lend the physician a supply of plasma together with a sterile, ready-to-use intravenous set. Two containers of 250 c.c. each (2

^{1.} A. R. Wiley Tulsa, in Jl. Okla, State Med. Assn., Aug.

units) should be handy at all times, in refrigeration, when not carried to the patient. If the plasma is not used in three to four months, it should be returned to the hospital and exchanged for a fresher supply of pooled plasma. It is assumed that the needs for plasma in the hospital will be greater than those of the individual physician in the outlying districts and that the hospital will soon use the returned plasma, as it is useable for one year. This plan would avoid waste. In the event that the borrowed plasma was used and a new supply requested, then the members of the family or friends of the patient should present themselves to the hospital as the donors to replace the blood. The ratio of one donor for each 125 c.c. of plasma used should be set. The hospital would then make the same charge as though the patient had been in the hospital. This is usually \$10.00 for any amount of plasma up to 500 c.c., if replaced by donors furnished by the patient.

Dr. Wiley says that this plan is not perfect, but that it will answer most of the problems of the present time and one can readily agree.

DOCTOR JOHN SAMUEL TALLEY

In the passing of Dr. Sam Talley Iredell County has lost one of its best doctors and most loved citizens. The loss is great. There is no one to take his place.

For thirty years he has lived and practiced medicine at Troutmans and during this time has taken care of a large community. He has always been a hard worker, day and night, forgetful of himself, thinking only of those who were ill and in need of medical attention.

Those who work a fixed number of hours and are then free from responsibility until the beginning of the next day's work, with Saturday afternoon and Sunday and all the nights their own, can never comprehend the life of a doctor. The long hours of continuous work often required, especially during an epidemic, in the unending fight against disease and death—these hardships doctors suffer without complaint. In times of epidemic all doctors are overworked, even when there is no shortage of medical men. Now all doctors are overworked even with only the usual amount of sickness.

Dr. Talley never spared himself but put forth unremitting effort to take care of the sick and distressed in his community. No one in his territory has gone without proper medical attention. He is one of that great army of medical men who constantly strive to prolong life and to make life easier, better and more pleasant for their followers. Every thoughful person should look into the history of medicine and get an understanding of the service which doctors have rendered to the world

since the beginning of time. Most people would be amazed to find that civilization has to a great extent been made possible by the medical profession. While not discounting the great things that others have done for the world, yet it is true that world progress has depended upon medical progress and teachings. From the time of the most remote antiquity down to the present moment doctors have been humanitarians—healing, teaching, saving and prolonging life.

Improvements in living conditions are based on medical discoveries and research work done by doctors. This knowledge put to practical use has done away with many diseases entirely, has made the prevention of others possible, and it is curing other diseases which formerly had high rates of mortality. Typhoid fever, smallpox and malaria have almost been abolished in civilized countries. Life-saving surgical operations are now done by the thousands every day. Hospitals, equipped with every life-saving device and with every means for the diagnosis of disease are generally available. Diseases that were once almost universally fatal now yield quickly to drugs that have been provided through the discoveries of doctors. Armies are raised, the unfit are rejected, troops are fed and transported with the minimum of illness and loss of life where otherwise this would have been impossible. By the use of new laboratory methods diseases are quickly diagnosed and cure effected before they have progressed to the point where treatment is of no avail.

Dr. Sam Talley was an honored member of this profession. He exemplified in his daily work the best of our ethics, the finest of our traditions. In his spare moments he delighted in gardening and growing fruits. Many of his friends often received baskets of these products of his recreational labors. Always in good humor, in the sickroom his presence gave hope and cheer. His associations with all those with whom he came in contact were pleasant and agreeable. He was friendly and those who knew him were his friends. Skilled in the art of medicine, frank, sincere, honest and honorable, steadfast in his friendships, faithful to every trust, a good husband and father, a Christian and a gentleman—truly, a great man has gone from among us!

—T. W. D.

ORTHOSTATIC ALBUMINURIA

(H. J.I. Young et al., Baltimore, in Military Surgeon, April) Before a diagnosis of orthostatic albuminuria is made, the following criteria should be met: 1) No past history of renal disease; 2) normal blood chemistry, non-protein nitrogen, blood urea, total protein and albumin-globulin ration; 3) normal kidney function (phthalein, urea clearance, and dilution and concentration tests); 4) no white blood cells, red blood cells or casts in the urine, except intermittently and in small numbers; 5) no elevation of blood pressure; 6) negative plain x-ray pictures and intravenous urograms; 7) absence of albumin in the urine voided when in the recumbent position.

TUBERCULOSIS

J. Donnelly, M.D., Editor, Charlotte, N. C.

DIAGNOSIS AND TREATMENT OF NASAL SINUS DISEASE IN RELATION TO THE EYE

THERE is a stronger relationship between eye and sinus diseases than is usually appreciated.

Corneal ulcers, not of traumatic origin, should always make one suspect a possible chronic infection of the maxillary sinuses. In such conditions iodized oil should be injected before roentgenograms are made so as to bring out a difference of even 1 to 2 mm. in thickness of the sinus mucosa. Properly made antrotomy will give relief to the antrum and eye.

Any infection along the uveal tract demands a careful examination of the nasal sinuses and teeth. An optic neuritis which responds to sinus treatment very often is noted by the patient first in the morning, the central blundness having developed in the night. These patients usually do not show pus in the sphenoid, yet frequently the vision returns immediately after opening the posterior ethmoid or sphenoid. However, injecting iodized oil into the sphenoid will produce the same spectacular return of vision if this result is to be obtained by any manipulation in this area.

Dacryocystitis in infants may usually be relieved by evacuation of subperiosteal pus externally without destroying the ethmoid labyrinth or entering the nose. The usual curved incision is made midway between the inner canthus and the midline of the nose. If the antrum is involved it may be evacuated through the same incision.

In orbital cellulitis when the acute infection does not subside rapidly following incision, it is well to exenterate the ethmoid cells and remove part of the lamina papyracea through the nose. This same approach is used in adults for intra-orbital abscesses.

For mucocele of the ethmoid or frontal causing displacement of the eye outward and downward (if necessary a submucous resection is done as also the splitting and removing of the outer half of the middle turbinate), the ethmoid cells are bitten away and the mucocele is readily entered. The cavity should not be curetted as it is lined with smooth epithelium. The displacement of the eye is corrected by finger pressure inward and upward above the inner canthus. The cystic wall is so thin as to be easily broken back into normal position.

Three units of insulin once or twice daily stimulate healing of corneal ulcers.

Where there is marked tenderness and swelling of the eye and x-rays show clouding of the ethmoid cells and frontal sinus, the usual curved intraorbital incision is made followed by a small trephine opening in the floor of the frontal. This relieves pressure and affords drainage which is all that is necessary. No manipulation is done inside of the frontal sinus.

Palliative treatment for patients with pain about the eye and frontal region following acute rhinitis is afforded by a mild cocaine spray.

Rx Cocaine Hydrochloride gr. 1½

Solution Neosynephrine ½%

S. S. Boric Acid aa oz. ½

Sig: Use in atomizer.

Have the patient spray a small amount of the solution, then wait five or ten minutes, and spray again. Repeat until the nose opens well up toward the frontal region. Cold applications may give more comfort than heat.

Where there is repeated frontal sinusitis every winter or where the infection tends to be several days old the anterior ethmoid cells may be cut away and the frontal sinus entered with a Pratt ring curette, using care not to rasp the mucosa from the frontal opening. This procedure gives almost immediate relief and often ends the recurrence of attacks. This operation may be done simply and without great trauma and gives relief from severe pain.

Goodyear, Henry M.: Diagnosis and Treatment of Nasal Sinus Disease in Relation to the Eye. The West Virginia Medical Journal, Vol. 39, No. 8, pg. 270, 1943.

TREATMENT OF EPIDEMIC NEONATAL DIARRHEA WITH SUCCINVLSULFATHIAZOLE

(A. H. Twyman & G. R. Horton, Indianapolis, in Jl. A. M., Sept. 18th)

The extreme fluid and electrolyte loss was combatted with isotonic solution of sodium chloride, distilled water and dextrose, plasma or whole blood. Superficial veins were exposed for venoclysis and frequently as many as five or six of these procedures were required, often with failure of entire success. Fluids by mouth were pushed to tolerance. Some physicians gave sodium sulfathiazole with no apparent relief of symptoms.

A protein milk formula was prescribed; paregoric to allow not more than three or four stools in 24 hours. The sulfa drug in initial dose of 2 gr. per pound of body weight was followed by 1/3 gr. q. 4 h. with the regular feeding schedule. Gavage feeding was necessary in only one instance.

It is important to administer vitamin K.

Withdrawal of the drug was based on three factors: 1) number, color and consistency of the stools, 2) weight gain and 3) the general physical state.

Epidemic neonatal diarrhea is confined chiefly to infants under one month of age. The onset may be sudden or insidious

Of 22 cases 11 were treated with the new drug, with two fatalities, both of which we believe were due to inadequate dosage.

In the control series there were four deaths.

VENTRICULAR TAP is a valuable aid in lowering some patients' blood pressure, particularly when there is evidence of extreme intracranial pressure as evidenced by marked papilledema.

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

FOR THE DESTRUCTION OF NAZIISM ALL OVER THE WORLD

BUT

AGAINST THE WHOLESALE STERILIZATION OF ANY PEOPLE

-FREDERICK R. TAYLOR

THE EDITOR of Southern Medicine & Surgery may not want to publish this paper, but, knowing him as I do, I suspect he will do just that thing, for I believe that he, like myself, will endorse the idea contained in the dictum: "I disagree with everything you say, but I will defend to the death your right to say it." So, I would certainly not deny him the right to express his ideas openly and fully regarding the best method of protecting the world from another holocaust even worse than the present awful one. I would decline to take issue with his idea of compulsory sterilization of all Germans and Japanese if I thought the procedure would have the result that he apparently believes it would, viz., to rid the world of the incubus of war.

I shall define Naziism in its broadest sense to mean dictatorship based on force utilized to promote the idea of total inferiority of other peoples or nations than one's own, whether it refers technically to the German Nazi party, to Japanese dictatorship, to Fascism, or to such an attitude and course of procedure on the part of any other people or nation. That Naziism, so defined, is the All-Highest Evil and apotheosis of what the late Dr. E. E. Southard would have called the Kingdom of Evil that mankind has yet known, seems to me the most obvious fact in existence today.

Certain pacifists have claimed that war never settles anything. I do not believe this. Apparently war does settle some things. A war rather definitely settled our political independence of Great Britain. Another war rather definitely put an end to a previously accepted form of slavery in a part of this country and made it extremely unlikely that any state or group of states in our commonwealth will ever again separate from the United States. However, it seems quite contrary to history to suppose that an idea can be suppressed, or evil done away with, by total destruction of those holding the idea,

or committing the evil, or of their descendants.

One of the earliest legends of the human race is that of the universal Flood, this legend being common to Babylonian and Hebrew peoples alike. The lessons to be drawn from it are fundamental truths, irrespective of whether you look on the story of the Flood as an epic legend or as literal history. One of the most fundamental lessons to be derived from this story is that the wholesale destruction of the people of the earth (except for Noah and his group) did not do away with evil. The epic of the titanic struggle of Elijah with the

prophets of Baal, ending in the wholesale slaughter of the latter, did not destroy idolatry. Perhaps one reason (though not the only one, I think) is that almost nothing is perfect. Noah remained after the flood, and almost immediately after getting out of the Ark got so drunk that he couldn't take care of himself. (Gen. IX: 21 ff.) Elijah ran away and hid in a cave after the prophets of Baal had been destroyed because Jezebel still remained. Even the destruction of Carthage, perhaps the most complete job of national destruction recorded by history, did not destroy hatred of Rome.

Naziism is an evil philosophy. Its material forces are being destroyed by material force backed up by the moral sense of mankind, and must be destroyed, if this world is to become a fit place to live in. However, material force does not destroy an idea. Justice is one of the supreme virtues, but this war was not brought about by any people as yet unborn. The advocacy of wholesale sterilization of an enemy people shocked me, coming from the pen of my respected friend, the Editor of this journal. This particular proposal seems to me inappropriate coming from him, and below the standard of his usually well-balanced, dispassionate discussions.

Suppose his suggestion had been carried out in the early days of German history. One may doubt if Europe would have remained at peace, for there were still Corsica and Napoleon. Nietzche would never have been born, but neither would Kant. The Kaiser with his fellow brigands and Hitler with his gang of criminals would never have come along, but neither would Beethoven, Brahms, Goethe, Schiller, Heine, Koch, Von Behring, von Graefe, von Humboldt, Haeckel, Klebs, Löffler, Kraepelin, Langenbeck, Billroth, Weigert, Wundt, Zuckerkandl, Einstein and a host of other benefactors of mankind. The medical use of the sulfonamides originated in Germany. In short, the world would have been vastly better off without a lot of Germans, and vastly poorer without a lot more. Only a demonstrable inherent defect in the germ plasm of a nation could warrant wholesale sterilization of its people. This is a thesis that cannot be proved for any nation, despite Schickelgruber to the contrary. Even Japan has given us Kitasato, Kagawa, Noguchi and others. No, the defect is in leadership and in education. The vast majority of German children of the generation just past have been miseducated and so indoctrinated with Naziism that they, now adults, have had a fiery zeal to spread the vicious propaganda. Now, however, one can feel that such words as Hamburg, Hannover, Cologne, Stalingrad, etc., may be making them stop to think, in some instances, at least.

In our country, the Civil War ended, so far as actual fighting went, in 1865. Hostility in feeling

persisted for many years, however. This was most emphatically *not* due to men like Lee or Lincoln or Henry Grady, but to men of very different type who opposed and exploited the defeated people in every way possible and gave them cause to continue hating. Had Lincoln lived out his term of office, things would have been far different. However, the simile breaks down at one point. Lincoln, of course, knew that the former "enemy" was really a people of noble ideals, led by men of noble ideals, and so treated them.

So, admitting this breakdown, I cannot and do not advocate treating Hitler and his gangsters with generosity-that to me is the utmost soft-headed folly. I would advocate that they be tried by a solemn Court of the Nations-tried, condemned and executed as world-criminals and mass-murderers, because they fomented this war. This, of course, would go for the Japanese gangsters, too. My advocacy of this is not due to any desire for petty revenge, but to a desire to see the solemn judgment of mankind forever deny that there is any divine right of kings or dictators to wantonly set out to destroy their fellow men wholesale. In the past, the most responsible villains have often escaped scot-free because of high office. The highest officials of both German and Japanese gangdom stand convicted by their own words. This conviction should be ratified by the solemn judgment of mankind and sentence carried out, not on the innocent, born or unborn, but on the guilty. No neutral nation should be permitted to harbor such awful criminals. Indeed, no neutral nation should want to harbor them, but any neutral to whom a leader in international crime should flee should deliver up that arch-criminal to the justice of outraged humanity. However, if we sterilized all the Germans and the Japanese, then we would become guilty of a form of Naziism and we, in turn, would become the hated and feared nation. Such a procedure would shock the moral sense of the world in much the same way that Naziism as it is at present-constituted has done. We must destroy, and are destroying, the power of the Axis peoples to hurt the world. Then we must destroy their wicked philosophy, but this can be done only by education and by creating a new world in which all peoples may be free to work out their own destinies, but in which no people may be free to wantonly hurt and destroy.

[My friend and former comrade-in-arms knew very well that I would be glad to publish any opinion of his. And I fully reciprocate his opinion of my offering, and say that his rejoiner is way below his average.

My objection is not to war, or the likelihood of a repetition of war. It is to something a thousand times worse than war, which something will almost certainly be repeated, and accomplish its purpose, unless the very means I prescribe be carried out.

War did put an end to a certain form of slavery in a part of this country; but I would not let this opportunity pass without dragging in, by the hind leg so to speak, a conviction which, so far as I know, is original with myself. There is no doubt in my mind that far more blood was shed by the lash on New England sailing ships than on Southern plantations, that far more slavery, in its most galling form, was imposed on New England white men than on southern Negroes. Read "Two Years Before the Mast." Read mark, learn and inwardly digest it. And remember it was written by a New Englander and that he regarded the conduct of his captain as about average. And, over a period of many years, I have tried to get the figures to show what number of Negro slaves were freed in the north and east, and what number were sold south, as a preliminary to the going-pious about slavery on the part of the posessors of the famous New England conscience.

The putting into effect of "Cartago est delenda" did not destroy hatred; but it did effectually put an end to the threat of danger to Rome from Carthage; and the analogous threat to all the decent world by Germany and Japan is what I want destroyed.

All right, let's suppose. Be it remembered throughout my editorial, Prussia was emphasized as the villain in the plot. Until very modern times Prussia was an insignificant principality; at the outbreak of World War I it had two-thirds of the inhabitants and practically all political power in Germany: Dr. Taylor is not very happy in the list of greatest Germans (of Prussians) which he picks. The first, Emmanuel Kant, was the son of a Scottish saddler, and Prussia suppressed a good part of his works. Beethoven was born at Bonn, of Belgian parentage, died unmarried at Vienna. Brahms was born at Hamburg and educated at Breslau, spent the last 25 years of his life at Vienna and died there. Goethe was born at Frankfort-on-the-Main, of Thuringian stock, educated at Leipsic and Straasburg (Alsace), spent most of his life at Weimar in Saxony. As a child he was attracted by the achievements of Frederick II, King of Prussia; but in later life he condemned unsparingly the ruthless militarism of Prussia and particularly Frederick's attack on Saxony with an overwhelming force without declaring war (prototype of Pearl Harbor).

Schiller was born at Marbach in Württemberg, took most of his heroes and heroines from English, Scottish, Italian and Swiss history. He was pensioned by the hereditary prince of that same Holstein that Prussia later raped from Denmark. He lived successively in Mannheim, Leipsic, Dresden and Jena, and died at Weimar in Saxony. Heine was born of Jewish parents at Düsseldorf, studied at Bonn, and Göttingen, settled at Paris, was later pensioned by the French government and died at Paris in 1856. Haeckel was born at Potsdam, it is true; but surely no one will seriously contend that he ranks with the three great Englishmen in the same field—Darwin, Huxley and Herbert Spencer.

Koch was born in Hannover, and was most influenced to do his great work by Henle at Göttingen. Behring was born at Hansdorf, Löffler at Frankfort-on-the-Oder, Langenbeck at Pardingbüttel (and ennobled for his service in the first rape on Denmark, 1848). Weigert was born in Silicia; Billroth a Viennese surgeon of Swedish parentage. Of the origin of the remaining three—Klebs, Kraepelin, Zuckerkandl—I know nothing. Humboldt and von Graefe are the only two known to have been born in Berlin, and I rather suspect that neither was all-Prussian.

As Dr. Taylor would have recalled at once had he turned it over in his mind, Einstein was a Viennese Jew and when Hitler's thugs murdered Austria's anti-Nazi ruler and most of the members of the Government, Einstein was fortunate to escape to this country.

Call it keeping hostility alive if you choose, I have no liking for seeing Lincoln mentioned in the same sentence with Lee and Henry Grady. I'd be glad to lend anyone interested that excellent book "Lincoln According to His Contemporaries." There may be found a copy of an affidavit that Lincoln contributed \$100 toward outfitting John Brown and his gang of murderers and horse-thives with pikes, with which to arm the slaves to murder their masters and their masters' families. Further, no man can help being illegitimate; but one who boasts of his illegitimacy in order to lay claim to respectable parentage on one side merits unmeasured contempt.

In order to visit punishment on the unborn one would have to work an injury before a person is born which would become operative after the person is born. By no stretch of the imagination can we punish one who is neither born, nor ever to be born.

I agree entirely with what Dr. Taylor says in his second to last sentence. I insist that the only wav bossible of "destroving the power of the Axis beoble to hurt the world" is to make sure that there will never be another generation of Prussianized Germans, or of Japanese. J. M. N.

THIAMIN CHLORIDE—AN AID IN THE SOLUTION OF THE MOSQUITO PROBLEM

FROM a state whose mosquitoes have a well-deserved reputation for ferocity and pertinacity comes an encouraging report. A teacher and practioner of pediatrics¹ tells us that by taking a certain vitamin in adequate (no great amount after the first day) dosage the vast majority of individuals may disincline mosquitoes to feast on them.

We have never been reputed over-credulous. But we believe thiamin will do in this section just what Dr. Shannon has found it to do in Minnesota. We are going to give it a trial at the first opportunity. We cordially recommend it to others. In the dosage recommended the cost will be very slight. No danger is incurred. And thiamin chloride will do you and your patients good generally.

Thiamin chloride administered either by injection or by mouth is capable in adequate dosage, causes previously susceptible persons to become repellent to mosquitoes; it is capable of minimizing or completely eliminating the itching from bites either recent or old; it will minimize immediate reactions and cause the rapid recession of lesions of long standing. This from the point of comfort.

To have a *health* value, it must affect disease-carrying mosquitoes, and whether it does or not is not known. Complete protection against the bite in all individuals has not been the experience. Some patients have observed that a characteristic odor emanates from the skin of persons receiving large doses of the vitamin, which might cause mosquitoes to avoid such persons. On the other hand applications of an ointment containing three per cent of thiamin chloride has not protected. The required dosage is uncertain. For rapid results, initial dosage should be large. From 18 to 120 mg. the first 24 hours will give satisfactory results in almost every person before the second day arrives: results are noticed in a few hours.

A mother reported that in order to keep her son adequately protected she had to give them 60 to 80 mg. per day. Another person, on the other hand, was able to roam the countryside on 5 mg. per day after the initial saturation. Other adults have been protected on 10 mg. daily after the initial dose.

Ten representative case reports are given attesting the value of the treatment.

1. W. R. Shannon, St. Paul, in Minn. Med., Sept.

THE WAGNER-MURRAY-DINGELL BILL'S THREAT

At the recent meeting of the Ninth District Medical Society held at Statesville much time was taken up with the discussion of the bill now before Congress which aims to have the Surgeon General of the U. S. Public Health Service take over the practice of medicine in this country and have doctors paid so much per month or so much per patient per month.

A great deal was said. Some of the speakers were hopeful that the bill would not be passed. Others thought the outlook very grave. All thought doctors ought to do something about it. The most practical point was made by the youngest doctor there. It was that the proponents of this bill had known in advance that doctors would oppose its passage, that members of the Congress who had not yet made up their minds could be influenced only by expressions from individuals and groups other than doctors.

Since attending the meeting I have had a chance to speak by radio. The occasion was Health Week, the sponsors a group of druggists. I paid a heart-felt tribute to the druggists, then took up most of the time presenting the case of the present mode of rendering medical service vs. the proposed method.

At the Statesville meeting not emphatically enough was it stated that Medicine had done an excellent job under our present system. There has never been a time when Medicine was not alive to the fact that our methods of preventing and curing disease were in need of improvement; nor was there ever a time when doctors were not earnestly striving to accomplish this improvement. By all means agree with those who say we must continue to render better and better medical service; but make it plain in each instance that this is no admission that we are not already doing our job far better than is any other group.

Wagner was born in Germany. Murray was born in Canada, and was naturalized the very year he was graduated by a New York law school. Dingell was born in Detroit, was a laborer, is now a member of the Typographers' Union, went to Congress to represent union (so-called) labor and is doing just what he went there for. Just as intelligent, just as patriotic persons are born in other countries as in our own; but it is singular that the half-dozen foreign-born among the hundreds of members of the Congress furnish both Senators proposing this bill. It is not singular that a laborunionist undertakes another grab for his groupof 6% in wages this time. I have no fear we will be ruled by Hitler and Hirohito; but there is real danger that we will be ruled by John L. Lewis and Wm. L. Green-and I see little to choose between the two pairs.

The West Virginia Medical Association has worked out a plan in great detail for combating the threat of the Wagner Bund bill. This journal will present the salient features of that plan in its

next issue. In the meantime, we shall probably learn that the bill is dead for this session, or in a state of suspended animation.

In the interval between this session of Congress and the next we should work incessantly on the people, not only defeat the Wagner-Murray-Dingell bill, but to break loose entirely from the strangle hold union labor, the spoiled darling of the present Government at Washington has fastened on the throats of all the rest of us.

DOCTOR MacNIDER RETIRES

THE SESSION of 1943-1944 of the Medical School of the University of North Carolina will be the first in the present century to miss William deBerniere MacNider's vigorous and profound teaching.

In the fall of 1899, four years before his graduation in medicine, he was appointed instructor in biology. Throughout his undergraduate study of medicine he was student instructor, and since his graduation he has been assistant professor, associate professor, and professor. And right on he will continue to teach. He will not formally meet classes: probably he will not sign diplomas; but he remains at Chapel Hill as Kenan research professor of pharmacology, and, having full time to devote to investigation of the mysteries of disease processes and their amenability to the exhibition of remedial agents, it may well be that his years of retirement will be more fruitful, even, than those of his active teaching of classes.

William NacNider was born at (or on) Chapel Hill; and, wide and long as have been his excursions in gathering and diffusing knowledge, he has known no other home.

Doctor NacNider's labors have brought him every recognition that the most ambitious of men could crave. He holds membership in dozens of the most learned of the societies of his own country, and not a few abroad; he has been chosen visiting professor of medicine at Harvard; he has been for long a member of the National Board of Medical Examiners; he is one of the half-dozen physicians in North Carolina to be invited into the membership of the Association of American Physicians.

But I have no doubt that the accomplishment in which he takes most pride, which he holds nearest his heart, is the affection in which he is held by neighbors, former students and professional associates; nor that his feeling is that of a professor under whom I had sat, and who, to a note I had taken thought to write him on some special occasion, replied: "To me, who have devoted the greater part of a long life to teaching, nothing is

so gratifying as evidences that my former pupils think of me with respect, gratitude and affection."

COLLECTING MEDICAL BILLS FOR SERVICES TO THE INDIGENT

We do not know what, if any, provision is made by the laws of this section of country whereby doctors of medicine may collect for services to the indigent. So far as we know no such collection has ever been made.

Very likely in most of the States of the Union provision has been made by counties, townships or cities for paying doctors for their services to the indigent. In colonial times the parishes recognized and discharged this obligation.

Very likely we can get something done along this line, if we will but present our claims to law dispensers or lawmakers; and the chances are that in the not distant future we will need the money badly.

A letter in *Minnesota Medicine's* July issue caused us to wonder, If doctors can collect for such services in another State, why not here?

It is a common fallacy of physicians and social service workers to think that emergency cases are of necessity surgical. There is the medical emergency case; also, there is the surgical non-emergency case.

Medical or surgical authorization in writing is necessary before a township, municipality or county can be held legally liable for the bill. Such authorization must be obtained from the chairman of the town board in a county operating under the township system of poor relief, or from the executive secretary of a county welfare board in a county operating under the county system of poor relief.

In indigent emergency cases, either medical or surgical, it is not necessary to have written authorization to care for the case before the bill for medical services is legally collectible from either the township or county. It is necessary, however, that within 48-72 hours after the performance of such emergency service the chairman of the town board, or the executive secretary of the county welfare board be notified in writing that the service was rendered. It is advisable to keep a duplicate copy of such notification. A return receipt from a registered mailing of the notification should be obtained and preserved.

In the non-emergency case, the very nature of the illness insures several days' time for ample investigation to determine eligibility for medical care at township or county cost before authorization is issued. In the emergency case, notification of the proper authority by the physician rendering such service should be followed promptly by an investigation of the eligibility of the patient for such service at taxpayer cost. When it has been determined that the township or county is legally responsible for the bill for medical services of a non-emergency nature, written authorization is issued to the physician. And after notification of the performance of emergency medical or surgical services, the bill for such services should be approved as soon as proper social service investigation determines the eligibility of the patient for such services at taxpayer cost. When the bill is so approved, it is usually paid soon after the next meeting of either the county welfare board or the board of county commissioners.

PROSTIGMIN FOR PERIODIC OCCIPITAL HEADACHE (Louis Pelner, Brooklyn, in Dis. Nervous System, 4:117, 1943)

One 15 mg. tablet of prostigmin bromide was dissolved in 1 ounce of tap water and given 1, 2, 3 drops the first day, morning, noon and night, and increasing 1 drop per dose until 30 drops were reached. Then 30 drops were given for 1 week, and thereafter 30 drops e. o. d. for an indefinite period—several weeks to 4 months. Occasionally the dose had to be increased up to 40 drops. No other treatment was used.

Each patient was skin-tested with histamine 0.1 c.c. of 1/1000 solution and with acetylcholine .02 c.c. of the 1/20 solution. No case was treated unless there was a marked reaction to histamine or acetylcholine. The reaction to histamine was considered positive if the wheal developed many pseudopodia and the flare was 2 inches or more.

Forty-six patients were treated by this method. In 4 cases there was no relief—3 of them cases of osteoarthritis of the spine. Five had 50% relief, 37 completely relieved. Duration of symptoms before treatment had been from one week to several years. The most common treatment previously given had consisted of salicylates, short wave or infra-red applications and massage. There were occasional periods of remission under this therapy.

THE EFFECT OF ASPIRIN ON THE GASTRIC MUCOSA (W. D. Paul, Des Moines, in Jl. Iowa State Med. Soc., 33, 155, 1943)

Acetylsalicylic acid does not produce hyperemia or cause hemorrhages in the gastric mucosa. *In doses as high as 80 grains per day* it does not cause any gastroscopically demonstrable changes in the stomach. Its ingestion over long periods of time does not produce chronic gastritis.

The epigastric distress which sometimes occurs after the ingestion of acetylsalicylic acid might be the result of increased acid production and pylorospasm.

RELIEF OF ALLERGIC PREMENSTRUAL HEADACHE

(E. W. Phillips, Phoenix, in Southwestern Med., June) Certain allergic women who suffer from premenstrual headache, premenstrual tension, and associated dysfunctional ailments were found to have sharply positive reactions to intradermal testing with a gonadotropic preparation, a 1:5 dilution of Synapoidin. Numerous controls made negative responses. Women showing positive reactions were relieved by intradermal desensitization with the same preparation. This method of test and treatment is simple, harmless and effective.

NEWS

THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA, CHARLESTON

ALUMNI ASSOCIATION REFRESHER COURSE PROGRAM

Wednesday, November 3rd
BARUCH MEMORIAL AUDITORIUM

9:30 a. m.—The Uses and Abuses of the Sulfonamides, Dr. H. L. Flippin, Philadelphia.

10:15—Differential Diagnosis of the Anginal Syndrome, Dr. C. C. Wolfert, Philadelphia.

11:00—The Essentials of Pneumoconiosis, Dr. L. U. Gardner, Saranac, N. Y.

11:45—Traumatic Shock, Dr. Alfred Blalock, Baltimore. 12:30 to 1:15 p. m.—Clinical Presentations, by Visiting Speakers and Faculty.

1:30—Buffet Luncheon in Medical College Library.

3:00 to 4:00—Medical Round Table: The Sulfonamides, Dr. Flippin; Treatment of Heart Diseases, Dr. Wolfert;

Pulmonary Diseases, Dr. Gardner; Baruch Auditorium. 4:00 to 5:00—Surgical Round Table: Dr. Blalock, Baruch Auditorium.

5:00 to 6:00-Pathological Conference, Dr. K. M. Lynch, Pathology Laboratory.

Thursday, November 4th

9:30 a .m.—Deficiency Diseases, Dr. V. P. Sydenstricker, Augusta.

10:15—Physiological Considerations in the Treatment of Nephritis, Dr. G. W. Thorn, Boston.

11:00—Pulmonary Embolism in an Army Hospital, Dr. J. T. King, Washington.

11:45—Diagnosis and Treatment of the Hemorrhagic Diseases, Dr. R. R. Kracke, Atlanta.

12:30 to 1:15 p. m.—Clinical Presentations, by Visiting Speakers and Faculty.

3:00 to 4:00—Round Table: Thyroid Disturbances or other medical subjects, Drs. Thorn and King, Baruch Auditorium.

4:00 to 5:00—Nutritional Diseases, Hemorrhagic Diseases, Drs. Sydenstricker and Kracke, Baruch Auditorium.

5:00 to 6:00—Pathological Conference, Dr. K. M. Lynch, Pathology Laboratory.

8:00—Founder's Day Banquet: Speaker, Dr. Henry Meleney, New York. Subject, Tropical Medicine, Present and Future, Francis Marion Hotel.

EXCEPTIONAL PROGRAM OF ASSOCIATION OF MILITARY SURGEONS OCTOBER 21ST TO 23RD

Admiral William D. Leahy, who served as Ambassador to the Petain Government in France before joining the Presidents War Council and is now personal Chief of Staff' to President Roosevelt, will speak in a Symposium on War Medicine at the 51st annual convention of the Association of Military Surgeons of the United States, to be held at the Bellevue Stratford Hotel, Philadelphia, October 21st to 23rd.

The Annual Dinner of the Association will be held in the ball room of the hotel at seven, with Admiral Leahy as guest of honor. At eight-thirty, Rear Admiral Ross T. McIntire, Surgeon General of the Navy, will present the ranking officers of the Army and Navy to the Convention. Admiral Leahy will speak at nine.

Another report on the war will be given to the Convention the night of October 21st when Lieutenant General Sir Alexander Hood, Director General of the British Med-



SHAFT OF LIGHT—Prostigmin 'Roche' is undoubtedly one of the most outstanding achievements of the past decade. In clinical research Prostigmin is proving a shaft of light, helping the profession to combat successfully a number of disorders, the treatment of which has hitherto been a gropping in the dark. Surgeons everywhere use it as a routine measure in preventing abdominal distention and urinary retention—and to the myasthenia gravis patient Prostigmin has indeed come as a shaft of light in his dark world of suffering and disability HOFFMANN - LA ROCHE, INC., ROCHE PARK, NUTLEY, NEW JERSEY—Makers of Medicines of Rare Quality

ical Services, will speak. Representatives of 14 foreign countries will be present for Symposium.

The Convention is open to all physicians and dentists in the country in the Army, Navy or civilian service.

Army and Navy officers from the battlefields of the Solomons, Tunisia, Alaska, the Aleutians and Italy will tell of their experiences in caring for casualties under enemy fire. Clinics and lectures will be held revealing the latest developments in the use of Penicillin, and the latest technique in the treatment of venereal diseases.

Another feature will be the showing of motion pictures of life in war-time Japan from films captured from Japanese officers.

THIRD ANNUAL SCHERING AWARD COMPETITION

Three major prizes of a total value of \$1,000 will be awarded to undergraduate medical students who submit the best critical dissertations on the subject "Hormones and Cancer." The Judges for the Award are these American investigators in the fields of endocrinology, medicine and chemistry:

 R. G. Hoskins, Director of the Memorial Foundation for Neuro-Endocrine Research, Harvard Medical School
 E. P. McCullagh, Section of Endocrinology and Metabol-

ism, the Cleveland Clinic

E. C. Hamblen, Associate Professor and Chief of the Endocrine Division, Department of Obstetrics and Gynecology, Duke University School of Medicine

E. Novak, Associate Professor of Obstetrics, University of Maryland School of Medicine

- H. M. Evans, Institute of Experimental Biology, University of California
- F. C. Koch, Chairman of the Department of Biochemistry, University of Chicago
- E. Shorr, Assistant Professor of Medicine, Cornell University Medical College

The Schering Award was established by the Schering Corporation in 1941, for the purpose of encouraging a wider interest in current endocrinological developments among undergraduate medical students. The competition is sponsored and administered by the Association of Internes and Medical Students, and participation is limited to undergraduate medical students in the United States and Canada. All manuscripts must be submitted no later than Januáry 15th, 1944. Communications should be addressed to "The Interne," 7 East 42nd Street, New York 17, N. Y.

MECKLENBURG COUNTY MEDICAL SOCIETY, Medical Library, Oct. 5th, 8:00 p. m. Program:

Role of Surgery in the Treatment of Pulmonary Tuberculosis, Dr. Hillis L. Seay. Discussion, Dr. John P. Kennedy.

Subconjunctival Injections of Iodine, Dr. J. G. John-

Medical War Film.

MEDICAL COLLEGE OF VIRGINIA

Dr. Francis B. Johnson, professor of Clinical Pathology, is being sent by the American Association of Medical Colleges on a six-weeks field trip to Central America in the study of tropical diseases. He is leaving the country on September 28th.

Dr. Daniel W. Ellis, of the Department of Clinical Pathology, has returned from a two-months course at the Army Medical School in Washington, D. C., where he was sent by the U. S. Government to study tropical diseases.

DIED

Dr. Samuel A. Riddick, 66, died September 10th in a Norfolk hospital. He was a native of Riddicksville, Hertford County, N. C., and attended the College of William and Mary and the University College of Medicine, Richmond, where he was graluated in 1899. He practiced in Smithfield, from 1900 to 1917. Then served as attending army surgeon at the port of embarkation, Newport News, from 1917 to 1919.

Dr. Dempsey Barnes, 47, died September 9th in Duke Hospital, Durham, after a critical illness of several months. He was a native of Proctorville, N. C., and a graduate of Wake Forest College and Medical College of Virginia.

Dr. Barnes began practice at Asheboro, N. C., in 1926. In 1934 he and Dr. H. L. Griffin began practicing together and in 1938 they formed the Barnes-Griffin Clinic, which has been operating successfully since.

Dr. Alvah Damsey, 66, a native of Pittsylvania County, Virgin, and for many years a resident of Crewe, where he was surgeon for the Norfolk and Western Railway, died September 4th at the Veterans' Administration Hospital near Hampton. Illness forced his retirement from practice several years ago.

Dr. James Thomas Taylor, 59, died at his home at Greensboro, N. C., September 28th, after a long illness. Born at Raleigh, he attended school at Buie's Creek Academy and was educated in medicine at the University of Maryland. Dr. Taylor was long associated in practice with Dr. J. W. Tankersley and was a member of the staff of all the hospitals of his city.

Dr. William Gordon Sutton, 82, veteran Wayne County physician, died September 17th at his home at Seven Springs after an illness of three years. He had practiced medicine more than 55 years, more than 40 in Wayne County.

Dr. Sutton was a native of Lenoir, and a graduate of Jefferson Medical College. For a time he was resident physician and instructor at the old Davis Military Academy in Winston-Salem. He was a member of the Wayne Medical Society and had served as president.

Dr. Leo Buerger, 64, New York surgeon and urologist, who made known generally the pathological condition called Buerger's disease, died October 6th.

Born in Vienna, he was brought to this country when a baby. In 1917, he operated on Sarah Bernhardt and several months later when the surgeon's daughter, Yvonne, was born, the actress asked that the child be her goddaughter and bear her name. Yvonne Sarah Bernhardt Buerger died a year ago.

Dr. George Huston Bell, 77, New York ophthalmologist, died October 5th. Born in Mount Sidney, Va., Dr. Bell was educated at Augusta Military Academy and the University of Virginia. He had been a member of the staff of the New York Eye and Ear Infirmary for 43 years.

It would appear unlikely that heredity is of primary importance in the etiology of hypertension.—Feldt, R. H., & Wenstrand, D. E. W., in Amer. Jl. Med. Sci., Jan.

Triumphs in Triage*

*M EDICAL triage in war—front-line classification of casualties—is among the toughest assignments of the military physician. Instant diagnosis—often under direct fire—countless variations—new, baffling situations.

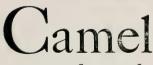


Seldom cited, rarely in print, the military doctor has little leisure time. When he does get around to relaxing, you're apt to find him taking his ease with a cheering cigarette.

Thinking of gifts to those in service? Send Camels . . . the gift that's appreciated! It's the favorite brand of the armed forces† for the kind of smoking fighting men deserve.







_costlier tobaccos

New reprint available on eigarette research — Archives of Otolaryngology, March, 1943, pp. 404-410. Camel Cigarettes, Medical Relations Division, 1 Pershing Square, New York I7, N. Y.

BOOKS

INTERNAL MEDICINE IN GENERAL PRACTICE. by Robert Pratt McCombs, Lieutenant. Medical Corps. United States Naval Reserve; Recently Instructor in Internal Medicine for the Statewide Postgraduate Program of the Tennessee State Medical Association. On leave of absence from the staffs of the Pennsylvania Hospital, the Abington Memorial Hospital and the Jefferson Medical College, Philadelphia. 694 pages with 114 illustrations. W. B. Saunders Company, Philadelphia and London, 1943. Price \$7.00.

In carrying out an extensive teaching program under the direction of the Tennessee Medical Association, the author observed certain needs in knowledge of diagnosis and treatment of some common conditions of ill health. These needs he undertakes to supply in a book which integrates advances in basic knowledge with bedside problems. A constant aim is to teach means of making a diagnosis with a minimum of laboratory and technical aid.

The chapter heads are:

Fundamentals of Diagnosis; Disorders of the Heart; Hypertension and Diseases of the Kidney and Urinary Tract; Disorders of the Gastrointestinal Tract: Nutritional Deficiencies: The Anemias. Blood Dyscrasias and Allied Diseases: Infectious Diseases: The Use of the Sulfonamide Drugs in the Treatment of Infectious Diseases; Chronic Lung Diseases: Rheumatic Diseases: Endocrine Disorders; Allergic Diseases and Common Neurologic and Psychiatric Problems.

This, from the summary of the chapter on diseases of the kidney and urinary tract, illustrates the quality of the book: Hypertension or abnormal urinary composition or edema demands consideration of various disease conditions before making a final diagnosis. Careful urinalyses, simple kidney function tests and the use of the ophthalmoscope afford valuable evidence. The indications for urological investigations are outlined.

The influence of emotional states in the production of gastrointestinal symptoms is given prominence.

One instructive table tells us "What the Electrocardiograph Cannot Do"; another, "What the Electrocardiograph Can Do." And there is a revealing sentence worth the price of the book to the doctor who needs support against the prevailing habit of paving too much attention to the records made by machines. The sentence is (and it is italicised in the book): It must be always kept in wind that practically all abnormalities of the electrocardiogram have been observed to occur in peothe with no demonstrable heart disease.

No doctor, whatever his field of work, will make a mistake by buying and studying this book.

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⁸ Am. Jl. Surg., 33:523,1936 Trade Mark Reg. U.S. Pat. Off.





REACTION TO INJURY: Pathology for Students of Disease Based on the Functional and Morphological Responses of Tissues to Injurious Agents, by Wilker D. Foxaus, M.D., Professor of Pathology, Duke University and Pathologist to the Duke Hospital; 532 illustrations, 20 of which are in color. The Williams & Wilkins Company, Mt. Royal and Guilford Aves., Baltimore, 1943. \$9.00.

The preface is an ideal introduction to the study of medicine. It aptly says that those engaged in this study must be *students of disease*, not merely *students of medicine*; that disease cannot be departmentalized, that it is absurd to say that "clinically" or "pathologically" this or that is so.

A well-trained pathologist imbued with this concept as he approached the task of writing a book could not fail to write a great book. It is refreshing to find in a book written on this side the Atlantic a statement using the word critical in a complimentary sense: "the cultivation of such mental processes is essential for the development of that critical thinking which is so necessary to the physician if he is to play not only his professional role but also his almost equally important sociological role in the community where he lives."

The discussion of the nature of disease leads right up to the study of disease processes, manifestations of reaction to injury.

tions of reaction to mijo

The arrangement is:

Part I—Introduction to the Study of Disease Pathology, the Science of Disease

The Nature of Disease

The Causation of Disease

Part II—Active Resistance to Injury by Endogenous and Exogenous Agents.

Inflammation: Acute, Chronic, Local, Focal—of different anatomical structure and systems

Reaction to Injury by different classes of organisms.

The author does not undertake to make of his students experts in the technique of post mortem sectioning, staining and examining by means of the microscope. Rather he aims at inculcating a broad understanding of disease processes, also that special knowledge of these processes, which, applied to specific problems of medical and surgical practice, will be most helpful in diagnosis and cure.

A textbook of the first class in plan and execution; as soundly scientific as Gray's Anatomy, as excellent and delightful English composition as Macauley's History of England.

DR. COLWELL'S DAILY LOG FOR PHYSICIANS: A Brief, Simple, Accurate Financial Record for the Physician's Desk. *Colwell Publishing Company*, Champaign, Ill. \$6.00.

The Log for 1944 has features which make it an improvement on that for the present year. Several samples of auxiliary sheets and cards are enclosed. It offers the simplest, handiest way of keeping accounts ever offered to a physician. It will pay for itself many times over each week in inducing the prompt recording of every monetary transaction and saving of time, and when the time comes to make up tax reports it will obviate headaches and tax-expert fees.

Renewal Pages for LOOSE-LEAF SPECIALTIES IN GENERAL PRACTICE. Thomas Nelson & Sons.

This issue is of 270 new text pages, plus new front matter, two new color plates and a revised and enlarged index. A new article on *Minor Surgery* takes up 109 pages. The remaining pages are additions to nine chapters. Altogether, the new pages will bring the text entirely up to the present.

Many more patients are harmed by dietary restrictions than helped.—Henry A. Christian,

CHUCKLES

Expert: A man who knows less about your business than you do, and gets paid more for telling you how to run it than you could possibly make out of it, even if you ran it right, instead of the way he told you.

In a group of undressed men the examining doctor noticed a particularly stout individual—5 feet tall and 5 feet wide—his body full of contours and the layers and rolls of fat making all kinds of bizarre shapes, and said to him "why don't you diet?"

"Yes," said the fellow looking downard, "you think so,

doctor, what color is it now?"

"What is the difference between a misfortune and a calamity?" an intelligent, patriotic citizen asked of a ditto. He got the reply, "Well, if John L. Lewis had to bail

He got the reply, "Well, if John L. Lewis had to bail out of an airplane, that would be a misfortune; and if his parachute were to open, that would be a calamity."

Each time she pays proudly with a check, though she can neither read nor write. She signs the check with a peculiar-looking X. Today she made two X's. "Why this double X?" I asked her. "I'm married now," she explained. "The account is in both our names, and he signs jus' like I do."

-Roche Review.

Cecil Leeke teaches mathematics, but besides knowing figures he knows that a strange black cat on one's front porch is a sinister omen, so he ordered the cat away. The cat sat unconcerned. Cecil threw a stone at her. The nose of Kathleen Arland, who was passing by at the time, was flattened; the fracture extended upward into the frontal bone. After her nose was restored to its original position, Kathleen and Cecil Leeke were married, all because of that black cat. And the professor is now confirmed in his superstitions.

-Roche Review.

Robert Benchley had been shining as the ladies' man at a certain party in Hollywood, when two matinee idols arrived. The girls began to descert the humorist, one of them exclaiming over the newcomers, "Now, that's my ideal of real he-men!"

"He-men!" growled Benchley, "I'll bet the hair of their combined chests wouldn't make a wig for a grape!"

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JAMES M. NORTHINGTON, M. D., Editor

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Man-In Behaviour*

J. K. Hall, M.D., Richmond, Virginia Westbrook Sanatorium

ATELY, in one of the old homes of this county, I looked upon a sleeping, month-old, baby-boy. And I wondered what might be the thoughts of the parents and of the two grandparents as we five gathered around the crib of the quiet child. I was questioned, to be sure, about what member of the numerous family the baby most resembled in his miniature body. But I was giving little thought to the infant's appearance. Whom does any baby so much resemble in looks as another baby of equal

My thought was rather about the child as a symbol of mankind as well as an individual; about where the little one had come from in descent; about how long he might have been on the way; about the probable length of his life and where it might be lived; and about the exchanges that would take place between him and his environment during the long roll of the years through which, I hoped, he might live if, perchance, he might live well.

Cold and unfeeling must be that mortal who is not profoundly moved by the first cry of the newborn. By that cry, the anxious mother, the alert nurse and the busy physician are assured that the offspring possesses life and vitality. And the census enumerator straightway adds one to the population.

What potentialities the child brings with it whence it comes! How promptly the little body begins to increase in size and to gain in strength! What mighty and unerring directive forces are innate in the little one! I can think of no more inspiring nor provoking object to look upon than a baby in its first cry. The hope and the despair of the world lie within the infant.

So small and so dependent once was the mightiest warrior, the greatest scholar, the most learned scientist; the most moving orator, the most skillful artist and the swiftest runner. The tyrant and the dictator always ultimately become again helpless and speechless as they were in the first hours of life. But crowns will some day be worn by some of those who are now speechless babes and swords will some day be unsheathed by the hands of some of the babes of today. Emerson tells us, I believe, that all history resolves itself into the biographies of a few stout and earnest persons.

On another occasion a few years ago I was invited to speak to a group of earnest women about the relative importance of heredity and environment. But I found myself in deep water at the beginning because of the difficulty I experienced in differentiating the individual, through whom heredity functions, from the environment, to which the individual responds through behavior. It is not only speculatively difficult, but it may be actually impossible, to say where the individual ceases to exist and where the environment has its beginning. But there should be, if posible, an understanding as clear-cut as can be formulated of the meaning of the principal terms one proposes to use in a discussion.

[&]quot;Read by invitation at the Annual Meeting of the Ninth District (N. C.) Medical Society, Statesville, N. C.; Sept. 30th, 1943.

I realize, of course, that a word is but a symbol, that a symbol stands for something, and that it possesses importance and dignity only because of the qualities projected into it by those who make use of it.

The individual is literally indivisible. Division of the individual robs him of his oneness, by making him either less or more than one. Man is one, a single being, a physical body and many and varied attributes. At birth he comes into this world a small human being and associated with that physical structure are qualities that will direct his bodily growth and that will manifest themselves also in his personality and his character.

Surrounding the individual at birth and throughout life are many things, some of which are other persons. I think I should be willing for our purposes this evening to define the environment of the individual as everything else in the universe besides the individual himself. Such a conception makes one's environment, or surroundings, both simple and complex. The individual and his surroundings include, therefore, the entire universe. And the universe is entirely too large for me to comprehend it. I cannot think understandingly of limitless space and of a body that has no terminating surface or borders. But, I speak of many things as if I understand them, even though they are too big for my mental capacity!

Yet I would presume to commune with you briefly, in spite of my limitations, about man, about him in relationship to the world around him, and especially about his unceasing efforts to adjust himself to his particular environment. All of man's actions, everything, indeed, that man does and that he restrains himself from doing, constitute, I suppose, what we speak of as his behaviour. It represents the obvious effort of man to live in tune with himself and with his own world. Conduct and behaviour are, perhaps, not quite synonymous terms. I think of behaviour as more automatic and as less consciously purposeful than conduct. Behaviour is briefer in action; conduct is behaviour throughout a longer period of time.

There is no need of confirmation of the statement that man's chief interest is his fellow-man. The assertion is self-confirmatory. And there should be no necessity even for my saying to you that man is more concerned about the behaviour of his fellow-mortal than about anything and even everything else, save. perhaps, his immortal soul. And I interposed the perhaps rather purposely. We mortals are insatiably interested in gossip, and in that feature of the gossip that relates to human behaviour. Our appetite for news about the doings of people is never satisfied. The printing presses that make newspapers and magazines and books for us cannot appease our news-hunger. Added to

those facilities long ago was the transmission of gossip by the electrical current along the wire. Later, the radio came, with the capacity to diffuse any sound that may be produced in all directions, defiant of space and of time. Now, in consequence of such mechanistic contrivances, all of us all over the earth live in ear-shot of each other. We speak to each other and are spoken to by each other, with what result? I make answer not causatively but only temporally—a world war, in which man is exhibiting behaviour so universally diabolical that the Devil himself must be able at last to live in exultation.

There, I purposely made a statement I should not have made. I spoke of my own and of my fellow-man's behaviour as I looked upon it through moral, ethical spectacles. I doubt if Truth can ever be found by one who makes use of condemnatory thinking in his search for Truth. I suppose there may be Right and that there may be Wrong, but they cannot be found, identified and be properly used until Truth has first been discovered.

Of all the myriad things that I do not know, in medicine and out of it, I should most like to know what the unimpressive-looking young man wrote once with a finger on the ground, once and once again. The old and the young were gathered around him, as he stooped down and as he straightened up, many of them doubtless fixed in learned opinions. And some of them knew the difference between court-house and church-house Right and Wrong. Some of them insistently said so. And they told the young man, who used his finger as a pencil, that the woman they brought in to him was a camp-follower, a prostitute, no longer fit even to live. They were wearing moralistic, ecclesiastical, legalistic spectacles, and through those lenses they saw everywhere Right and also Wrong. But when they looked, once, and again once more, upon the finger that moved and left on the ground a written tracing, evidently easily legible and understandable, they left, hurriedly, the last one of them, old and young, learned and ignorant. They left after the young man had asked them a question and followed it by a suggestion.

The wretched woman was asked no question about her character or about her conduct, but only about her accusers. The young man doubtless understood her instantly. He was able to understand her digressive behaviour without a prolonged psychoanalytic study of her personality and her character. He probably concluded that her behaviour was instinctive, rather than immoral; natural, though unacceptable to the community. She felt at ease with the young man because he was rentle and free from hatred. I can easily believe that the itinerant, preaching and teaching, peripatetic young man must have been disturbing to the

fathers of the Temple. If a preacher should come into this or into another town and be obviously untroubled by sinful behavior, especially by immoral behaviour of the women, I am inclined to believe that he would be obliged to move on. For the good citizen is identified always by his stout disapproval of sin—in others. Soon after digitalizing the influential statement down in the dirt, the wandering young preacher made a statement to the assembly that gathered again around him in the Temple—a pronouncement that would put man on terms of understanding with himself, with his fellow-man, with the universe and with the Infinite, if we could only believe the statement and make use of it as the guide in our lives.

Many people once believed that Thomas Jefferson himself was as godless as any French Revolutionist. But not long ago I looked again, as I had done many times before, upon that statement of the Teacher, cut deep in tall letters in ancient Greek in the cornice of a building in Thomas Jefferson's University: And ye shall know the Truth, and the Truth shall make you free.

Once a learned, simple, unpretentious scientist told me that if the length of the existence of human beings on this earth were represented by a sharpened lead pencil of full length, he thought the sharpened-lead portion would correspond in length to the life of man in his present physical form; the main body of the pencil, seven or eight inches in length, would stand for man during his developmental period, in changing physical form, bearing no recognizable resemblance to a human being. And only that portion of the lead that had been sharpened would represent man as an animal possessed of some degree of mentality. Whether that scientist's view of evolutionary man be acceptable, or objectionable, as altogether unorthodox, it is impossible for the thoughtful man even to contemplate himself in detachment from his ancestors. Sometimes on a balmy day in midwinter in Richmond a train comes down from the north with its roof snow-covered. That train was affected by its antecedent environment.

The scientist who spends his nights and his days in work and in wonderment about the biological history of man might tell us that the individual in his physical development, within and without his mother's body, portrays all the varied stages and forms through which the human race has passed in the millions of years present-day man has been on the way. Occasionally a baby is born in which as a digression in development a gill-slit in the neck remains unclosed. And still more often, perhaps, in a so-called dermoid cyst somewhere in the physical body, are found in immature form assembled portions of another physical body. Iceth, fingers, or other anatomical parts. Once I heard a

great surgeon express disappointment that the cyst he finally succeeded in taking out of a man's back did not contain a bicycle. He remarked that he had encountered everything else in such cysts.

Did the hand of the great Artificer tremble? Yea, hath not the potter power over the clay, of the same lump, to make one vessel unto honour, and another unto dishonour?

I would not have the great Apostle otherwise than as he is, so much of him as I can understand, but I wish he were with us and at the head of a great biological laboratory. Then the world of research would be shaken.

The fact that heredity is and that it exercises profound influence in living things is probably universally known and made daily use of. If like should cease to produce like, chaos would prevail. But man's belief in the transmission through heredity of parental qualities to offspring is somewhat delimited to the physical. By patient observation and by unceasing effort man brings about improvement in certain physical forms-in live-stock and in vegetables, in grains, and in fruits. Man has found it to be possible to improve the flavour and the palatability of much of the vegetable food. Some weeds and some other wild things have been transformed through domestication and cultivation into nutritious and valuable foods. That fact means that inheritance is not confined always to the physical structure. But the improvement of quality by attention to heredity is not so assured nor so easy as in the physical structure.

We probably do not usually expect the highly useful acquisitions in the immaterial domain to be transmitted with certainty and increasingly to the offspring. The thoughtless speak sometimes disparagingly, if not derisively, of the minister's son. Not many of our governors' sons become governors. The son of only one of our Presidents has become President.

But, old things are passing away. A national dynasty may be aborning. The world is in travail. But once the mountains were in labour, you recall, and only a mouse was born. Heredity may, at times, perhaps, exercise degenerescent influence.

Heredity it is that gives physical form to the living thing. The directive influence of heredity is transmitted to the offspring through the two parental particles that by their fusion begin the development of the individual—in the human as the embryo within the mother. Even at birth the baby's physical body is old, thousands, perhaps millions of years old. Those of us who hold such an opinion think that we have some degree of understanding of the phenomenon. But not even the scientists who spend their lives in working with living things give thought to the probable, or certain, associated truth that human behaviour is as

old ancestrally as the human race and as the physical body of which it is an innate part. Heredity gives the human baby its body. That body can be seen, felt, often heard and sometimes smelt. It is obviously and dominatingly real, small though it is. In structure the baby's body differs little from that of the parent. None of those statements is, I think, controversial. Within the tiny baby, permeating it and associated with it, is an invisible, imponderable, impalpable structure, as old ancestrally as the physical body, millions of years old; and that immaterial structure has lived in and with the baby always, in safety and in danger, sustaining it and protecting it.

That structure is instinct. It is wisdom of the highest order. It was acquired by attending the ancestral school throughout the ages—the primary, the grammar school, high school and preparatory school; and university after university. Instinct is inherited ancestral wisdom. It embraces all those qualities that regulate behaviour in a given envir-

onment.

Instinct is the faculty of acting in such a way as to produce certain ends, without foresights of the ends, and without previous experience in the performances. Such was the conception of it of William James. The impulse to do the specific thing, to do it in a certain way, and under certain circumstances, is inherited. The doing of the thing requires neither acquired knowledge nor practice. Nay, more, the act does not imply that the performance of it carries with it an understanding of the reasons for the act or the results of it. The animal may, I should say, come eventually to realize what may come to pass as results of frequent repetitions of the instinctive behaviour.

Why does the animal act instinctively, one may ask? And another might ask, too, why gravitation so affects the universe of matter? Why does Niagara flow downward and not upward? Why does the apple drop to the ground? In stumbling at the half-way landing, why does one not tumble on upstairs, instead of rolling over and over to the bottom? I realize that it is not polite to respond to an interrogatory by another question.

But instinct has no concern about politeness; nor about truth: nor ethics, morals, law, reason, right, wrong, religion, ignorance, knowledge, pride, shame, honour, patriotism, decency; and instinct cares not a snap of its fingers for Mrs. Grundy, nor for Emily Post. Instinct is; instinct represents an urge, a drive, an impulse toward and often into action. Far back in instinct the urge may be a longing, a yearning, a hunger for performance of a kind in keeping with the life of the species. I feel that instinctive behaviour comes in response to a tension that causes discomfort, or unrest, that can be relieved only by the action demanded by the specific urge.

All the instincts may be grouped, I should think, under two headings—self-sustaining; race perpetuating. Instinct, if articulate, might say to the animal: live and beget. Few animals, even humans, seem to need any encouragement to do either.

Though many instincts are short-lived in children, their disappearances are usually succeeded by others. But the instinct to play in some way

probably abides in us throughout life.

Man who would know himself and his fellowmortal should devote dispassionate study to the primal and fundamental urges. In no other way can one be so impressively and so biologically informed. The same urges are in some degree, perhaps, in all mortals. All human beings are fundamentally alike: much more so than unlike. He who moves the multitudes makes use of that knowledge. If one could know all about instinct, then one would understand, perhaps, all conduct, and especially all forbidden, and much irrational, behaviour. Instinct, as the unconscious automatic adaptation of a means to an end, is the fountain and origin of the doings of most mortals. Many other influences affect the instinctive drives; sometimes by substitution, sometimes by concealment; not infrequently by camouflage, and often, of course, by denial and by other forms of untruthfulness.

Emotion may be thought of as the feeling-tone accompanying behaviour, and usually behaviour of the instinctive kind. It would be impossible to enjoy simulated happiness; and to be grief-striken on account of affected sorrow. A genuine emotion probably cannot be called forth merely by effort. Nature is not hypocritical, though she may be wholly a-moral. An emotion probably does not cause action. But the behaviour, usually of the instinctive kind, may be enormously influenced by an emotion—in all gradations from complete suppression to the most uncontrollable exaggeration.

I suppose intelligence may be thought of as the capacity to engage in directed thinking. Intellectual activity must be rare if it is thinking unaffected by the instincts and the emotions. If intellectual honesty implies the ability to deal unemotionally and honestly with self, then such honesty is unusual. I doubt if one can deal honestly with one's selfboth because of too limited knowledge of one's self and because one thinks always protectively of self. Discipline-self-discipline-may be defined as purposeful habituation in behaviour. Thorough development of self-discipline keeps one always in complete possession of all of one's personal resources. The disciplined individual is never dominated by fear, nor surprised, nor apprehensive, nor self-condemnatory. Such discipline enables one always to live up to the level of one's ideals-not perfectly, not in solf-satisfied fashion, but up to one's highest level: if not happy, at least ennobled. So lived Socrates and Jesus and Paul and Joan of Arc and Washington and Patrick Henry and Robert E. Lee and Jackson and some physicians, I hope; and many nurses and innumerable humble mothers and fathers whose names never appeared in print, some of them in this county; and many also who gave their lives unobtrusively to teaching. Were the time available I would satisfy my soul by naming some of them.

What does the watchman say of the night? What of the signs? Is there no balm in Gilead? Is man sadistic? Does he exult on account of the suffering he inflicts upon his fellow-man? Is man civilizable? Is he interested in the fundamental virtues, or does he only affect an interest that he may be approved by his neighbors? I make the inquiry not for the purpose of assembling data to justify condemnation of myself and of others, but to be used in self- and in racial-analysis. All anchors are now lifted; all philosophies are doubted; violence has replaced peace, and serenity has departed from the earth.

Warfare proffers destruction of life and of property as a substitute for reason and justice. Is it instinctive in man to fight his fellow-man? Why has warfare remained man's major activity throughout the ages? Does it constitute man's protest, not so understood by him, against the restraints imposed by civilization? Will man continue always to vocalize his passion through the roar of the cannon and the shriek of the shell? Is man lying in his heart when he says that he hates warfare? Does man exult in killing?

Might not man through rational effort discover that the fundamental seat of all human activity is within the individual's skull? Conflicts constantly rage there between contrary forces, many of them instinctive. When it becomes impossible to suppress and to repress them, then the struggle moves out, and group becomes arrayed against group.

Man is an energy-system. The individual is ceaselessly elaborating energy. All work is performed by energy. Energy insists upon being busy. When sufficient outlets are not provided for it, the individual may explode. The purpose of all education and of all other forms of training is to enable the individual to understand his energy, mental and physical: to develop the skill with which to control and to direct it, and to give it wholesome, purposeful outlet. When man's energy is properly directed, he lives wholesomely and constructively. Man may become what he would be only through understanding of what he is. Let us search our beings in the hope that we may come to know ourselves and through ourselves all others. Each mortal is universal man. The soldier in combat with the enemy fights himself. Human nature knows no political barriers and no social realms. Each individual epitomises the history of mankind and the hope of mankind.

ENERGY VALUE OF HEXOSE (DEXTROSE-LEVULOSE) IN GRAPE JUICE

(Frederic Damrau et al., New York, in Med. Rec., Oct.)

Since grape juice is one of the richest natural sources of dextrose and levulose, it lends itself particularly well to quick energy determinations. The brand* of grape juice which was used exclusively in these studies was selected because of its careful laboratory controlled uniformity and purity. As a source of dextrose it surpasses other commonly used fruit juices.

When provided in grape juice, the dextrose and levulose are in solution for quickest assimilation and in association with the normal minerals, vitamins and other food accessories present in the natural product. Particularly importhat is the normal vitamin B₁ content of the juice.

That thiamine is intimately concerned with carbohydrate metabolism and that it is an essential for the conversion of these foods into energy has long been recognized.

The vitamin B_1 content of the brand of grape juice used is almost exactly in correct proportion to the calories supplied. Thus, this brand of grape juice has a caloric value slightly above 300 calories per pint and a thiamine value of 150 micrograms (50 U. S. P. units of vitamin B_1)

It may be concluded that the brand of grape juice under investigation is a source of quick food energy which markcdly increases the work output and endurance of subjects performing hard physical labor. This energy is available within half an hour or less after ingestion of the grape juice.

Work output was increased an average of 26.22 per cent in one-half hour by an average of of 280 c.c. grape juice, as compared with control tests on the same subjects.

The percentage recovery of pulse and respiratory rates toward normal showed no difference as compared with the control observations.

*Welch's Grape Juice was used exclusively in these studies.

A PERCUSSION SIGN IN CORONARY DISEASE (A. S. Gabor, Bethlehem, in Penn. Med. Jl., Oct.)

The paucity of physical signs and laboratory findings in coronary disease, especially before the onset of thrombosis or occlusion, is well known. Even after occlusion the findings are not always distinctive.

Physical examination of the heart may be entirely negative. The alterations in the ecg. are seldom pathognomonic, and negative findings on the ecg. do not exclude heart disease. Coronary arteriosclerosis is not an entity capable of clinical diagnosis.

A positive sign of coronary involvement, elicitable by percussion, is absence or impairment of percussion resonance in the first and second interspaces, extending to the rt. over an area slightly wider in the first interspace than in the second. In milder cases the width of this area of dullness may be only several cm., in more severe cases as high as 6 to 7 cm.

These changes have been found in coronary disease before the onset of occlusion or thrombosis, often several years before. Also, they have been found in angina pectoris.

When this sign is negative, involvement of the coronary arteries can usually be excluded. When this sign is positive, coronary disease is usually present. It probably depends upon the fact that in coronary disease the aorta is distinctly dilated and lengthened from atheroma. The normal ascending aorta is found under the sternum and cannot be outlined by percussion.

Roentgenologic study shows that in coronary disease the aorta is usually tortuous and elongated from atheroma, with prominence of the knob and sometimes with visible calcification.

The Role of Surgery in the Treatment of Pulmonary Tuberculosis*

HILLIS L. SEAY, M.D., Huntersville, North Carolnia Mecklenburg County Sanatorium

TODAY, it is recognized that pulmonary tuberculosis is to a considerable extent a surgical disease. In 1931, only 10% of patients in tuberculosis hospitals were receiving the various surgical procedures. In 1941, the percentage had increased to 48. The surgical procedures which have been and are being used include: intrapleural pneumothorax, pneumolysis, diaphragmatic paralysis, pneumoperitoneum and thoracoplasty. This paper will be limited to a discussion of diaphragmatic paralysis and thoracoplasty.

Phrenic paralysis can be brought about by avulsion of the nerve (phrenic exeresis) or by crushing it with a hemostat (phrenic crush). Prior to 1902, the medical world believed that the diaphragm was such an essential organ⁶ of respiration that paralyzing it would result in an immediate fatality. In that year, Shroeder in his experimental work on dogs showed that dividing the nerve did not interfere seriously with respiration. In his operations for goitres he duplicated his results.

Complete phrenic paralysis will in a favorable case reduce the pulmonary volume a fourth to a third. The clinical effect is comparable to that of a 400- to 800-c.c. pneumothorax. The more nearly complete the paralysis, the greater the elevation of the diaphragm, the more favorable the conditions for healing. In our series of 318 cases the average rise of the diaphragm was 2.5 to 3 cms. In one case the rise was 10.8 cms, and resulted in successful closure of a large cavity. In many cases satisfactory results are obtained with little elevation of the diaphragm, provided the paralysis is complete. In our series there were no significant differences in results of treatment of lesions according to whether they were left or right. This is in accord with the findings of other investigators such as Alexander, Nehil and Haight of Ann Arbor.² The post-operative complications of this surgical procedure are fortunately few. In our group of 318 cases, extensive pulmonary spread occurred in 3; troublesome dyspnea in 1; wound infection in 2; mild gastrointestinal symptoms in many.

The best results are obtained in the productive or fibrotic type of tuberculosis. The poorest results occur in the exudative or pneumonic type of case. Indeed, our results with extensive pneumonic lesions are so poor that we rarely use the procedure with this type of case except as a palliative meas-

ure for relief of cough or other symptoms.

Diaphragmatic Paralysis (Only)		
Permanent Phrenic Paralysis Temporary Phrenic Paralysis (Phrenic Crush)	42 122	
Total	164	
Sputum Conversion 62 44 of 126 cavities closed		38% 35%
Pneumothorax & Diaphragmatic Para	lysis!	,
Permanent Phrenic Paralysis plus		
Pneumothorax Temporary Phrenic Paralysis plus	6	
Pneumothorax	99	
Total	105	
Sputum Conversion 62 43 of 94 cavities closed		60% 46%

In our series, many more temporary phrenic operations were done than avulsions. In tuberculosis, reversible procedures, other things being equal, are much more desirable than irreversible. A temporary phrenic paralysis is usually effective for six months and may be repeated as many times as desirable. It does not interfere with future surgical treatment. On the other hand, a permanent phrenic paralysis may make impossible or extremely dangerous additional surgical procedures, such as thoracoplasty.

Our results as to sputum conversion, cavities closed, etc., may at first thought appear rather poor. In a similar series reported by Nehil and Alexander 38% of 215 cavities were closed by phrenic paralysis alone, and 59% of 116 cavities not closed by pneumothorax were closed by the addition of phrenic paralysis. In their entire series 46% of 331 cavities were closed by phrenic operation or phrenic operation and pneumothorax; in our series 40% of 220 cavities were closed.

It may be said that the pulmonary relaxation brought about by phrenic paralysis may result in the arrest of the disease process or may slow its progression to the point that a thoracoplasty becomes feasible.

The latter half of this paper will be devoted to a brief consideration of the major surgical procedure—thoracoplasty. The one broad indication for a thoracoplasty is the closure of a pulmonary cavity which no other operation can close. For thoracoplasty a patient must be in fairly good general condition, relatively free of toxic symptoms—fever, rapid loss of weight; and must have no signs of circulatory failure—cyanosis, dyspnea, persistent tachycardia. The lesions in such a patient, just as in patients who are to receive a phrenic crush, should be predominantly productive or fibrotic, the type of lesion indicating strong resistance to the tubercle bacillus. Any lesions in the opposite lung must be arrested or quiescent. The age of the lesion most suitable for surgery is variable—some are within one year, the majority in two years, of the development of symptoms.

It is assumed that, before advising thoracoplasty, every patient has been given the benefit of other suitable operative measures of lesser magnitude, such as pneumothorax, phrenic crush etc. Only in case of failure of these less dangerous procedures to close the cavity and convert the sputum from positive to negative is a thoracoplasty indicated; but when these less heroic measures have failed, further delay to do thoracoplasty is costly to the patient. Once one is convinced that pneumothorax and supplementary procedures are ineffective, they should be abandoned promptly and preparation made for rib resection.

In considering patients for thoracoplasty, one must exclude those who have myocardial disease, progressive disease in the less involved lung, dyspnea or tuberculous tracheobronchitis. In a case in which bronchoscopic examination over a period of several months has revealed no evidence of activity in the tracheobronchial lesion, the operation may be proceeded with.

In reviewing 53 cases at Mecklenburg Sanatorium, in which 92 thoracoplasty stages were carried out; and in a study of 150 cases at Bellevue4 Hospital requiring 430 operations, certain avoidable errors are obvious. In many of our operations done more than three years ago too many ribs were removed at one stage, insufficient treatment was given for operative shock, and the intervals between stages were too short. We accepted for operation some persons who were obviously wretched surgical risks. Today, we restrict the first stage to 21/2 ribs. subsequent stages to 2 to 4 ribs; and give 500 c.c. each of whole blood (or plasma) and saline during the operation, instituting this intravenous therapy before the incision is made. It is much easier to prevent shock than to treat it after it develops. The interval between stages now is 3 to 6 weeks depending on the condition of the patient.

Thoracoplasties

White Patients	33
Colored Patients	20
Total	53
Sputum Conversion 36	68%
35 of 52 cavities closed	67%
53 white and colored patients received	i
93	2 operations
20 white petients prior to 1040	22 -4 -

20 white patients prior to 1940

3 stages

13 white patients 1940-1943

Total arrested or improved

20 white patients prior to 1940

6 deaths

30% patient mortality 18% operative mortality

13 white patients 1940-1943 O deaths
O mortality

It is worth while to draw particular attention to one finding in this table. In 20 white patients prior to 1940 the mortality was 30%; in 13 white patients in the period 1940 to 1943, the mortality was 0%. This marked decline in mortality was in our opinion due to an appreciation of the above mentioned factors—number of ribs removed, treatment for prevention of shock, interval between stages, removal of transverse processes etc.

Analysis of Thoracoplasty Deaths

Etiology	White	Colored
Pneumonia	2	2
Shock (hemorrhage)	0	1
Shock (interval too short)	0	1
Shock (anesthesia)	0	1
Wound infection	1	1
Pulmonary emboli	1	0
(Bilateral thoracoplasty)		
Nephritis	1	0
Unknown (probably cardiac)	1	0

It will be noted that pneumonia accounted for 4 deaths, shock for 3, wound infection for 2. In the 2 fatalities in the white group from pneumonia, death occurred within 5 days post-operative. Of the 2 colored patients who died of pneumonia, one received wretched post-operative care and the other had been under treatment for syphilis for 18 months. The inference obviously is that syphilis was a factor in this death.

One of the 3 deaths from shock was due to the resection of too many ribs and to profuse hemorrhage, and one to an improperly administered general anesthetic. In the third case the time between stages—2 weeks—was too short.

Of the 2 fatalities due to wound infection, in one case a partially destroyed tuberculous rib was found overlying a cavity and communicating with it—a fact not suspected when operation was determined on. In the other case sinuses developed at

the upper and lower angles of the wound and death occurred several months later. At that time no sulfa drugs were used in wounds; today it is routine with us to sprinkle 4 to 8 grams of sulfanilamide or sulfathiazole powder in the wound before closure.

Four case reports follow with x-ray pictures of each to illustrate (1) phrenic paralysis only, (2) phrenic paralysis and pneumothorax, and (3) thoracoplasty.

Case 1-Phrenic exeresis only

A white man, aged 45, having far advanced C tuberculosis with a cavity (4 cms. in diameter) in the left upper lobe, myriads of tubercle bacilli in the sputum, and tuberculous laryngitis. The phrenic nerve was avulsed, 15 cms. of the nerve being removed.

The sputum became negative and the cavity closed within six months. The case was classified as arrested 19-months after admission to the sanatorium; and it has remained an arrested case up to the present time—a period of 8 years.

Case 2—Phrenie paralysis (temporary, supplementary to pneumothorax)

A white girl, aged 22, entered as moderately advanced pulmonary tuberculosis C with Gaffky No. 4 sputum and 1½-inch cavity at the level of the 8th rib posteriorly on right. Artificial pneumothirax compressed cavity to half original size in a period of two weeks. A temporary phrenic paralysis or phrenic crush three weeks after admission closed the cavity completely. The sputum became negative, and pneumothorax has been continued up to the present time. This patient was discharged as having an arrested case 14 months after admission and began work less than 3 months after discharge.

Case 3-Thoracoplasty

A white man, aged 23, entered in 1928 as having moderately advanced tuberculosis B. Three years after admission a phrenicectomy caused complete paralysis and a rise of 10 cms. of the diaphragm. In 1933, 5 years after admission, he was discharged as having an arrested case. On a subsequent admission he received pneumothorax, which was successfully maintained for 22 months; then obliterative pleuritis forced discontinuance.

On account of cavitation in the left lung and a positive sputum, this patient had a one-stage thoracoplasty (upper 3 ribs) on May 17th, 1940, 8 months after discontinuance of pneumothorax. Recovery was prompt and discharge followed in 6 months. A relapse came in August, 1942. Stereoscopic x-ray pictures showed multiple small cavities in the upper lobe of the left lung. A second-stage thoracoplasty was then done—this time the regenerated second and third ribs and the 4th, 5th and 6th ribs were resected.—Eight months later this patient was given his second disraper, and he has returned to work. (An acute rheumatic favor at age 18 is held accountable for his heart being somewhat enlarged and giving forth a murmur typical of mitral stenosis. At no time, however, have any symptoms of cardiac decompensation manifested themselves.)

Case 4-Thoracoplasty

Colored man, aged 21, entered with diagnosis of far advanced pulmonary tuberculosis. Pneumothorax was given for 10 months, then abandoned on account of pleural effusion and obliterative pleuritis. A temporary phrenic paralysis gave no appreciable benefit.

After 20 months' bed rest, a thoracoplasty was advised, as a cavity (4 cms. in diameter) was still present and his

sputum was still positive (Gaffky No. 2). A two-stage operation was done, allowing one month between stages. All sputum specimens since the second stage have been negative and the cavity in the right upper lobe is no longer demonstrable. The patient is now classed as inactive or quiescent.

In general it may be said that the permanency of results with thoracoplasty will depend on complete closure of cavities, conversion of sputum, and the care which the patient takes of his health after he leaves the sanatorium. This major procedure is being used four times as frequently now as ten years ago, and the mortality rate over the entire country has been brought down to 10% or less. It is to be remembered that those persons who are restored to health by this type of surgery would. without it, have died of tuberculosis. It is not an operation of last resort. It should not be done in hopeless cases. Operations of lesser magnitude having proved ineffective and the lesions having become stabilized, thoracoplasty should be undertaken with no delay.

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EXPERIMENTAL PREVENTION OF RABIES WITH SOAP SOLUTION

(H. J. Shaughnessy & Jos. Zichis, Chicago, in II. A. M. A., Oct. 30th)

In experiments in which treatment of wounds contaminated with rabies virus was instituted within 30 minutes, only 11% of those treated with fuming nitric acid and only 6% of those treated with soap solution became infected. The rate was 63% in the untreated controls. The application of treatment in two hours was somewhat less effective, and its application in six hours was much less effective than when it was applied in 30 minutes.

In tests using a limited number of guinea pigs, the results of applying tincture of iodine within 30 minutes compared favorably with the results obtained following treatment with either fuming nitric acid or soap solution. However, when tincture of iodine was used after an interval of two hours it appeared to be considerably less effective than the other substances.

Packing the wounds wth sulfanilamide after they had been treated with soap solution seemed to have no effect on the incidence of development of rabies.

The results of these experiments show that, in the treatment of guinea pig wounds which have been inoculated with fixed rabies virus, irrigation with 20 per cent solution of soft soap is just as effective as chemical cauterization with fuming nitric acid, and possibly even more effective,

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

ENDOMETRIOSIS

ENDOMETRIOSIS has some of the characteristics of cancer in that it spreads, but its extension is limited mostly to the genital organs and those in close proximity. Rarely does endometriosis show up in more distant parts of the body.

We see endometriosis often as cysts of the stomach consisting mostly of dark, thick blood, and appropriately called chocolate cysts. Such cysts may also be found in small growths at various places on

the pelvic organs.

The exact cause of the formation of endometrial growths is in question, but much light has been thrown upon this curious condition which we so often find in pelvic surgery. Removal of both ovaries, the production of artificial menopause, or even the onset of natural menopause will cause the growth to recede and in most cases disappear. Further, endometriosis does not exist where there is no ovary; that is, the ovary secretion or some part of it is necessary for the initiation and growth of endometrial cysts. These cysts may appear and grow rapidly or very slowly.

A well developed chocolate cyst of either or both ovaries is usually due to endometriosis. We often see implants on the ovaries or other pelvic organs which are characteristic. These may be small implants with a puckering of the surface tissues of a dark, discolored area varying from the size of a pinpoint to a cystic growth of considerable size.

Endometrial implants may invade the rectal or intestinal walls and involve the uterus or the pelvic structures. They may penetrate the rectal wall or other of the pelvic viscera. They are prone to produce adhesions and severe pain, particularly during the menstrual periods. When a pain of this kind is present it is often difficult to make an exact diagnosis.

The diagnosis of endometriosis is not easy. The symptoms outlined would lead us to suspect this, but a definite diagnosis is rather difficult where the pelvic structures are involved.

Endometriosis may be cured either by the removal of both ovaries, which gives a prompt and positive cure, or by radium or x-ray. Of the latter, deep x-ray therapy may be slightly more satisfactory because as the treatment is being given the results may be carefully checked. The dosage of x-rays can be measured and an accurate record kept of the amount of radiation given. Radium, however, gives very satisfactory results. We have used both methods with gratification.

Whenever unexplained pelvic pain develops in

women of almost any age, whether they be nulliparous or multiparous, we should keep in mind the possibility of an endometriosis.

REGIONAL ILEITIS

THE LOWER PART of the ileum becomes acutely inflamed, producing symptoms similar to those of appendicitis, with sufficient frequency to warrant a careful study of the condition.

Patients often complain of indefinite pains in the lower abdomen which may suggest appendicitis, but the blood count does not follow the appendicitis pattern. If this condition persists, more pronounced symptom occur.

Sometimes in operating upon a patient for simple acute appendicitis an area of the lower ileum will be found to be badly inflamed and swollen, especially if there is any little obstruction at the ileocecal valve.

This inflammatory condition of the lower ileum presents itself as a dull,dark, dusky red color with considerable thickening of the falls of the small intestine. The lower end of the ileum and the appendix are plentifully supplied with lymphoid tissue, and so are more susceptible to infection than the upper part of the gastrointestinal tract. The lower end of the ileum contains more lymphoid tissue than all the intestinal tract above this segment. When typhoid fever was a major cause of death, inflammation and sloughing of this lymphoid structure accounted for a great many of the fatalities by means of hemorrhage or peritonitis, or both.

Now and then in operating upon a patient with appendicitis I have found the lower ileum highly inflamed and the walls greatly swollen, edematous and of a dark, dull, dusky red color. In most such cases the appendix was badly inflamed, but in some instances the appendiceal inflammation has not been of such grade as to account for the symptoms; and the inflammation of the lower ileum must have been producing all of the symptoms.

If a regional ileitis should persist long enough it is easy to see that the infiltration and fibrosis in the ileocecal valve region may produce a partial or even a complete obstruction, in which case more radical surgery would be necessary, almost as if this were a malignant condition. However, in most cases the inflammation subsides and the patient gets along well under medical treatment.

Just what to do in the average case of acute inflammation of the lower end of the ileum has been a difficult problem. We have found that where the appendix is removed and the condition then treated medically the patient is soon restored to health. The removal of the appendix removes any doubt as to the cause of future symptoms of trouble in this area. A severe recurrence is not likely.

The diagnosis of the cause of pain in the right lower abdomen is not always easy. Great care must be exercised in making a differential diagnosis. There may be a stone or possibly a stricture of the right ureter. Acute pyelitis may confuse the diagnosis. A right ovarian cyst twisted on its pedicle; or salpingitis, especially with more involvement of where the right tube, simulates inflammation of a low-lying appendix. Regional ileitis may certainly cause symptoms simulating appendicitis.

A careful examination and the use of every means available for the differential diagnosis will usually enable one to make a very accurate diag-

nosis of the condition present.

ENLARGEMENT OF THYROID GLAND THAT MAY BE OVERLOOKED

PALPATION of an enlargement of the thyroid gland which extends down behind the sternum or into the retrotracheal region is by no means easy; and a thick covering of fatty tissue may make the recognition of thyroid enlargement difficult.

Having the patient lie with the head on a pillow, slightly above the usual position so that the neck is brought forward prominently, the patient is asked to swallow as the thyroid is palpated and any ordinary enlargement is recognized. Even very small goiters are usually easily palpated.

In the substernal type of goiter an x-ray examination may be indispensable to accurate diagno-

The basal metabolic rate is most helpful in determining whether there is an over-activity of the thyroid gland whatever its location. In case of doubt about the basal metabolic rate, three determinations are made. This, however, is only one method in determining the possibility of hyperthyroidism.

In looking for a goiter on examining a patient it is necessary to take a little time in order that it may be done thoroughly and carefully. Unless care is taken, enlargement of the thyroid gland will often be overlooked.

BACILLARY DYSENTERY EPIDEMIC

(J. B. Nanninga, Newton, Kans., in Jl. Kan. Med. Soc., Oct.)

An epidemic of bacillary dystenry occurred in Newton, Kansas, in September, 1942, in which there were 3,000 cases in a city of 11,000. On September 2nd the water supply of Newton began to be polluted from a plugging of a main sewer with a resultant backing up of sewage into a new 14-inch water main being installed with lowering of water pressure.

Following elimination of the source of contamination and heavy chlorination of the water together with washing out water mains and dead ends, the water was again declared safe for drinking on September 21st. Chlorination has been continued indefinitely.

Symptoms were severe cramp in the abdomen, nausea

and vomiting, fever, dizziness and exhaustion, frequent and painful bowel movements often with the passage of blood, asking several days to a week. Recurrences were common in untreated cases. Sulfasuxidine and sulfaguanidine were used with bismuth and kaolin mixtures, with opiates to relieve pain. The usual course was to administer two grams of sulfathiazole as the initial dose, then one gram every four hours. Only two deaths could be attributed to the rpidemic. Stool cultures disclosed dysentery bacilli in some cases, in some others Shigella paradysenteriae, Hiss strain. Organisms resembling Salmonella were found in a few cases. Agglutination tests and blood cultures provided little definite evidence.

THE ABSORPTION OF IRON FROM FERROUS SULFATE WITH OBSERVATIONS ON HEMOGLOBIN CHANGES

(A. G. Marsh et al., Lincoln, Neb., in Amer. Jl. Dig. Dis., Oct.)

Smaller iron doses would reduce the chances of gastrointestinal irritation that is commonly experienced when large amounts of iron are given, and thus prevent the accompanying adverse influence on the absorption of iron and other nutrients.

The failure of the hemoglobin values to rise as the iron stores increased is in line with the finding that iron alone seldom, if ever, appears to be the limiting factor in hemoglobin formation. There is a growing realization that any permanent increase in hemoglobin value requires diligent dietary treatment that guarantees liberal, rather than only adequate, amounts of all essential nutrients for the synthesis of hemoglobin, and consistently adequate amounts for its maintenance at the higher level.

To be able to practically double this amount in six weeks' time indicates a tremendous capacity on the part of the body for accommodating iron. Add this the fact that the normal body apparently never excretes appreciable amounts of iron, once the iron has been absorbed, iron depletion of the tissues is unlikely. So question arises whether the extensive and increasing use of medicinal iron is either indicated or safe.

Fifty studies of the absorption and excretion of iron from a daily supplement of 126 mg, of iron, given in the form of six grains of ferrous sulfate, were made on 46 healthy college women. The daily absorption of iron by all the subjects averaged slightly more than 50% of the daily iron intake, whether the ferrous sulfate was given for only one week or for several weeks. This daily absorption for five or six weeks led to a total average storage of 3,225 mg, of iron, which practically doubled the amount of iron calculated to be present normally in the adult female body.

There were no significant changes in the hemoglobin values.

Twenty-one subjects with E. histolytica, or with other non-pathogenic amoebae and various flagellates, absorbed the same amount of iron before and after the administration of a protozoacide. These 21 subjects also absorbed the same amount of iron as the control subjects who were not infected with the micro-organisms. The average amount of iron absorbed, 76.79 mg. per day, by the subjects who received the supplement for five or six weeks was as great as that reported in the literature for subjects who received eight times this amount of iron, or the usual medicinal dose

During the 30 days that followed a week of iron supplementation the body did not release or excrete the iron that had been absorbed from the supplement. There was no indication that the body has any ability to control the iron content of the body by excretion or absorption.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

THE ID MERELY AN INTRODUCTORY WORD

I BELIEVE that modern psychiatry does not regard consciousness as a necessary essence of mental life. Yet I suppose that the popular notion prevails that where there is no consciousness there can be no mental life. Psychiatry may feel justified in asserting, indeed, that a decided degree of mental life may exist without concomitant consciousness. In other words, consciousness does not constitute the sole feature of mental life; it is usually an aspect of mentality, but not a necessary feature of it. To the question: Has a sleeping person mental life? psychiatry answers: Yes. To the question: Is the mind of the person who is unconscious, for some reason other than sleep, active? The answer of psychiatry again is: Yes. The necessary inference is that so-called consciousness and the mind are not synonymous terms. If the mind is to be spoken of structurally, as we are likely to do in these materialistic days, we must not permit ourselves to believe that the only occupant of that structure is consciousness. The mind, whatever it may be, is much larger than consciousness and much more complex than consciousness.

It seems well always when entering upon a discussion to find out first if the participants all have the same understanding of the meaning of the terms that are to be used. The word mind has already been used. I doubt if it can be acceptably defined, but we may all have the same conception of its function. That phenomenon which directs one in the pursuit of ends and which presides over the choice of methods adopted in the effort to reach the goal probably constitutes the mind. I believe that in our egotism we delimit its possession to members of the human race and deny its possession to all of the so-called lower animals. What those animals may think of our discrimination would be interesting; and we might be enlightened by it.

Involved in such a conception of the mind is the belief that all mental states are always teleological. That rather big and unusual word means that the mind in performing its functions always has an end in view. Every mental state is, therefore, purposeful; and it tends to action. There are, indeed, mental philosophers who believe that action, movement, indeed, obvious or hidden, is a feature of

every mental state. If that be true, it proffers in some degree an explanation of the fatigue and the hunger, too, that follows hard mental work. I am personally inclined to believe that hard physical and mental labour cannot be successfully performed at the same time by the same individual.

If we are to consider consciousness, we should define the phenomenon to which the term refers. Consciousness has been defined somewhat mechanistically as the transformation of physical into mental states. There is response, for example, to the pin-prick, because of the pain, in an effort to escape. The injury done to the tissues by the pinpoint is instantly changed into that psychological state known as pain. The response to the call of the telephone represents a higher form of transformation of a physiological into a psychological condition. Unconsciousness is the word used in referring to the situation in which the physical changes are not transformed into mental states. We know, however, that response to a stimulus may take place, and apparently purposeful response, without there being awareness of the response. Sometimes when in semi-sleep, for example, one may make sensible answer to a call without being aware of it, at the time, or afterwards. In my interneship days the superintendent of the hospital made it mandatory that the orders of the internes should always be written. Aroused from sound sleep late at night, the interne's verbal orders might have been lacking in validity.

The word 'conscious' is, however, descriptive. We know little of what it implies in the depth of the individual. We do know, however, that an idea. for instance, may be fleeting, and have no freedness or permanency. Each of you knows that. You know, for example, that three times two are six. Yet that idea abides in your mind only a little while occasionally. Where and what is that idea at all other times, when you are not thinking of it? We say it is latent. That means that under favourable conditions the idea can be called up at any moment; called back from wherever it may be, into consciousness again. The adjective 'latent' would seem to imply then capable of being called back into consciousness.

But there is another department, so to speak, of unconsciousness, in addition to the 'latent unconscious.' It would seem to be true that a powerful mental process, an idea, indeed, may exist without the individual being aware of its existence; and this process may affect the mental state profoundly. This process may act as a force in cutting certain ideas out of existence as conscious ideas, and removing them from the individual's conscious mental life. Although this is an active process, the individual is unaware that it is taking place. The ideas that are kept out of consciousness are said

^{*}Given by invitation to the Caduceus Club in a regular meeting at the home of Dr. O. B. Darden, Richmond, Virginia, on November 1st, 1943.

to be in a state of repression, and the force which initiated the repression and maintains it is spoken of as resistance. The process is not at all accidental or casual, but it is active and dynamic and unconsciously purposeful. This latter aspect of unconsciousness may be spoken of, indeed, as the dynamic unconscious. The content of this division of the unconscious does not easily emerge into consciousness and great difficulty may be experienced by the individual, even with the help of the physician, in bringing into light the dynamic unconscious.

It is now possible, for purposes of both description and discrimination, to speak of three forms or divisions of consciousness—the conscious, the preconscious and the unconscious. Of the latter division, I have already given consideration to the atent and the dynamic form. Ideas may be rather easily brought out of the preconscious into the conscious.

In each individual there must exist a fairly well organized mental structure which may be called his ego. This organization is peculiarly characteristic of the individual and by it he is differentiated from others more thoroughly, perhaps, than by his physical structure. In psychiatry the term ego so used has no kinship with the common use of the word indicating a feeling of superiority. The ego includes consciousness, of course, and it exercises control over all the approaches to motility—to the discharge of excitations into the outside world. It is this aspect of the mind, the ego, that regulates all of its processes. Even though the ego participates in the individual's sleep, it exercises a censorship over dreams, even while it sleeps. It is the ego which brings about through repression the removal from consciousness of a certain portion of the thought-content and removes it into the unconscious and keeps it there.

The element that has been removed from consciousness resists the transfer to the unconscious, and a conflict arises between the unconscious and the ego which evpelled it from consciousness. The ego resents being annoyed by it. But it is a rather blind conflict. The ego does not realize with any clearness what has taken place, nor does the repressed material. There is unrest and unhappiness and a blind sort of resentment. The feeling is between the ego, which has acted as a sort of authority, and the content of the material repressed into the unconscious. The ego experiences no regrets. It merely objects to being annoyed by the repressed material. Probably the ego had forgot all about sending it out of consciousness.

All knowledge is bound up with consciousness. We can know nothing of the unconscious until it becomes conscious. How can the unconscious become or be made conscious? Through the perceptive apparatus. Perceptions received from without

are called sense-perceptions. Those from within are chiefly sensations and feelings. And thought-processes that seem to come from deep within may be thought of fundamentally as displacements of mental energy on its way towards action. Does this displaced energy make its way toward the surface of the mind, so to speak, where perceptions are recognized; or does consciousness proceed, so to speak, to meet the oncoming mental energy? It is probable that the moving mental energy, anxious to be in action, comes into association with some memory-residue—words, for example; and in association with verbal images the unconscious becomes preconscious and then conscious.

We are all conscious of feelings, longings, fears and hopes that never assume the form of words, probably because they never encounter the residues of memory-images as verbal-images. Much mental activity in man must take place far below the word-level. The highest wisdom of the individual probably cannot be spoken. I have no doubt that much purposeful and highly useful conduct has its motivations far beneath the level of words. In such instances the individual, when asked in the court-room or elsewhere, why he did what he did can make no answer in words. Because words did not tell him to do what he did.

The content of the restless unconscious, or the subconscious, as it was once more frequently called, is varied, complex and resentful, because it is repressed, cabined and confined and restrained. And it is without knowledge of itself with which to comfort itself.

How can this unconscious ever become conscious and be understood, therefore, by the individual and by the physician? External perceptions become intelligible to us through the medium of comparisons instituted by us almost automatically; certainly unconsciously. The thing seen for the first time by us has meaning for us only if it bears some resemblance to something we have formerly seen. In other words, the image of the thing we look upon as it lies upon our retinae is unconsciously compared by us with all the memoryimages at all like it that inhabit our memory. We could not even start to describe an object that bore no resemblance to anything we had ever seen. The sensations, feelings, ideas, dreads, fears, hopes and vague notions relegated years ago into the unconscious by the ego and kept there through repression can be brought into consciousness through the preconscious probably only by association with verbal images; just as objects are identified through perception by comparison with memorv-images.

It would be presumptuous of me to speak to you of the spaciousness of the mind—of the variety and the complexity and the profundity of its content. I have spoken of it somewhat materialistically as divisible into the conscious, the preconscious and the unconscious. The latter division is by far the larger, the more varied, the more interesting and the more influential in the individual's life, in society and in history.

All of that portion of the mind that is not included in the conscious and the preconscious and the repressed is called the Id, and in German, Das

To the late Dr. Sigmund Freud, of Vienna, we are indebted for that medical philosophy that has come to be known as psychoanalysis. It is based upon Freud's discovery of the division of mental life into the conscious and the unconscious. The Id constitutes only a portion of the unconscious. The instincts, the inherited tendencies to behave in certain ways under certain circumstances, constitute an aspect of the Id much larger than the repressed unconscious. Because he demonstrated that in the content of the Id human beings are all as much alike, perhaps, as they are anatomically, Freud's philosophy has been, and still is, resented; especially by the snobs. Freud himself was persecuted and finally banished from Austria by Hitler. Freud's belief was that the major portion of the individual's psyche lies buried in the unconscious, and that most behaviour arises in the Id. And he taught, too, that the Id must be analyzed, dissected, if necessary, in order that the individual may be understood both by his physician and by himself. And Freud practised that form of psychiatric diagnosis and that form of psychotherapy embraced by the term psychoanalysis. His philosophy has affected the mental life of all thoughtful people.

The tendency of human beings is to ascribe the behaviour of the so-called lower animals wholly to instinct and the conduct of ourselves to intelligence. But we mortals were once, probably millions of years ago, almost wholly animals, too, and the behaviour of our ancestors in those distant days was altogether of instinctive origin. We have not succeeded in banishing the instinctual constituent of our mental life. We are probably still richer in instinctual drives and urges than any of the lower animals. But we are unwilling to believe or to recognize that fact.

Such discussion is not of mere academic importance. Knowledge of the origin and the meaning and the value of behaviour is useful in every domain of thought. Within the mind of man conflicts between trends are constantly taking place. The instinct, with which we mortals are still so generously endowed, constitute powerful urges to domany things. And the instincts are interested only in gratifying their own innate yearnings or hungers. They have no concern about the so-called higher things of life—education and law and religion and ethics and right and wrong. The chief

concern of the instincts, but of course they are not conscious of the purpose they serve, is to preserve the individual and to perpetuate the race. If the instincts could think, and if they would speak to us frank.y about their thinking, they would tell us, of course, that most of their thinking is about sexuality. But the member of modern society is not permitted to think out loud about sex; such thinking is thought to be ugly.

It is easy to surmise that many of the instinctual urges in man are disapproved by some of man's mental acquisitions-by his sense of decency and honesty and by his respect for law and order and public opinion and ethics and religion. In consequence of man's inability to give free reign to many of his instinctual urges, as his remote ancestors did, he finds himself disturbed by the conflict that is taking place within his mind all the timeconflict between the content of the Id and the repressions, on the one hand; and the ego and the super-ego, the conscience, on the other hand. Many nervous and mental conditions are merely manifestations of that unceasing conflict. If the instinctual urge to behave naturally in unhampered response to the drive is interfered with, dissatisfaction is experienced, probably discomfort, mayhap actual disease. Hysteria, for example, arises in the unconscious. The symptoms serve to constitute a protest because of the unwillingness of the individual to liberate the instinctual urges freely through unhampered behaviour; or incapacity to keep submerged so far in the depths of unconsciousness all such instinctual drives that the individual will be unaware of their existence. Most of the neuroses also originate in the unconscious, and in their symptomatology they represent the conflict in the individual between the two trends-the one to behave wholly naturally in response to the instincts; the other, to try to live in conformity to the demands of higher civilization. But to live so, in such distracted times as the present, requires unceasing effort, and the utilization of much mental energy. In consequence of the unending struggle many so-called nervous breakdowns occur. Neurasthenia, psychasthenia, much inadequacy, many life failures, many hurtful indulgences in alcohol and in other drugs, and many suicides have such origins. And the internist and the surgeon are finding out that every complaint of physical discomfort, even of sharp, local pain does not necessarily imply the existence of underlying pathologic disorder. Such complaints may merely mean the patient is both unaware of and unwilling to confess the existence of the conflict within. The conflict means, of course, that man is fearfully and wonderfully made and curiously wrought in the most secret parts, as the patriarch discovered long ago. And the trouble that man constantly experiences in

living with his spacious and complex inner self, about which he neither knows nor wishes to know, illustrates the importance and the difficulty of obtaining a history of the patient's life. What medical man possesses either the skill or the patience adequate for such an undertaking?

DERMATOLOGY

For this issue, RAY O. Noojin, M.D., Durham, N. C. Duke Hospital

TINEA GLABROSA (RINGWORM)

RECOGNITION of tinea glabrosa ordinarily is not difficult because it usually assumes the shape of a superficial ring when involvement of the glabrous skin occurs; hence the name ringworm. The typical picture reveals the slightly erythematous ring to have a sharply marginated inflammatory border of vesicles and scales. The central portion is paler and appears to be healing. The number of lesions is usually one to three, although numerous lesions and even generalized involvement may occur. The infectious area commonly has a diameter of 2 by 4 cm. Enlargement of the involved area is by peripheral extension. Children are more frequently affected than adults and probably acquire the infection in most cases from household pets. Those fungi acquired from animals produce a more inflammatory lesion. The subjective symptoms are usually slight, being ordinarily limited to itching and burning.

The clinical diagnosis should always be (particularly if therapy-resistant) confirmed by culturing the organism or by obtaining a positive potassiumhydroxide preparation directly from the lesion's outer rim, which demonstrates the pathogenic fungi simply and rapidly. Scrapings are taken from the active border, placed upon a glass glide, and a drop of 10% KOH added. A cover slip is placed over the preparation and the slide is heated gently to clear the material of debris. The preparation is then studied under low- and high-power objective with light reduced. Mycelia, if found, prove that a fungus is present, but cannot differentiate between the various types. By culturing material from the active border the causative fungus may be grown on Sabouraud's medium. Growth for identification purposes requires 10 to 21 days at room temperature. The etiologic agent is usually Microsporum lanosum, M. Audouini, Trichophyton gypseum, or T. rubrum. Biopsy is rarely necessary for diagnosis, but if taken the fungi usually can be stained in situ with polychrome methylene blue.

The more common annular dermatoses which occasionally may be distinguished with difficulty from tinea glabrosa include pityriasis rosea, syphilids, seborrheic dermatitis, psoriasis, impetigo, drug

eruptions and granuloma annulare.

Deep penetration of the skin with resultant nodules, sinuses and ulcerations occurs rarely, and these lesions are known as trichophytic granulomata. This is the only type which may lead to local atrophy, the other types rarely leaving a permanent residuum.

Healing rarely occurs spontaneously and the infective agent is autoinoculable. The local application of one of several medicaments is effective in most cases. The following are recommended:

- 1. 3% precipitated sulfur and 2% salicylic acid in boric acid ointment.
- 2. 1% tincture of iodine (watch for sensitivity).
- 3. Half-strength Whitfield's ointment.
- 4. Castellani's paint.
- 5. 10% ammoniated mercury ointment U. S. P. (Do not use with iodine.)

The lesions should first be scrubbed with tincture of green soap to remove the scales and crusts. Local application of one of the preparations named should then be made two or three times daily. If evidence of irritation or unfavorable response occurs, the therapeutic agent should be changed. It is essential that the medicinal substance be applied rather vigorously if in ointment form. To avoid "recurrence" continue therapy for at least two weeks after apparent healing has occurred.

INSURANCE MEDICINE

H. F. STARR, M.D., Editor, Greensboro, N. C.

DIGESTIVE DISTURBANCES IN LIFE INSURANCE APPLICANTS

A HISTORY of digestive disturbances in applicants for life insurance is of frequent occurrence. Fortunately, not always is there associated serious morbid anatomical change, yet it does indicate a serious condition in a sufficiently large percentage of cases to call for careful investigation of each case. This is true whether the history is of a simple acute attack or of recurrent or chronic trouble. Upon close investigation the acute attack may prove to be one of acute appendicitis or coronary occlusion. Chronic cases may be found to be gastric or duodenal ulcer, gallbladder or cardiac disease, or cancer. The examining physician will proceed cautiously in these cases, get as complete a story as possible from the applicant, examine the abdomen carefully with possible causes outside the abdomen in mind. The history given by the applicant for life insurance is neither as complete nor as dependable as that given to the physician when medical aid is sought. When the examiner suspects that the history is unreliable he should indicate his doubt so that the case may be investigated further and a statement from the attending physician obtained.

Chronic digestive disturbance in younger applicants may be due to a diseased appendix.

Older applicants, especially those above age 40, may have angina pectoris, particularly if the symptoms are described as epigastric fullness, slight dizziness, belching of gas, and substernal pain after meals or following exertion. Epigastric discomfort is a common symptom of cardiac disease in middle-aged persons. In some the tolerance to exertion may be reasonably good.

Disease of the gallbladder may be responsible for digestive symptoms, particularly among middle-aged, overweight applicants. An important diagnostic clue—present in about 90% of the cases of suffering with diseased gallbladder—is tenderness of the liver edge or over the right costo-vertebral angle. Constipation and belching of gas are common symptoms. Colic, cramps, a dull aching or short cutting sensations are common. It has been said that morphine is given more invariably for relief of gallbladder pain than for any other. The digestive distress bears no relation to food intake. Gallbladder infection is perhaps four times as prevalent in women over age 40 as in men.

Chronic gastro-intestinal symptoms are of serious significance when associated with a predisposition to tuberculosis. Early symptoms of tuberculosis in a considerable percentage of cases are digestive rather than pulmonary. In young, slender applicants, lacking robustness, it is especially important to carefully examine the chest and consider whether the digestive symptoms are due to tuberculosis.

Gastric crises of locomotor ataxia may simulate organic disease in the abdomen, particularly when there are recurrent paroxysms of vomiting and pain.

Excessive use of alcohol, gout, cirrhosis of the liver and diabetes also may give rise to digestive symptoms. Gastric ulcer, hyperthyroidism and hyperacidity are conditions not infrequently associated. Pain in the left side of the abdomen should suggest the possibility of diverticulitis, while pain in the right side of the abdomen may be of questionable significance if unaccompanied by tenderness, fever, rapid pulse and leucocytosis.

Gastric ulcer may give rise to chronic or intermittent digestive symptoms. It occurs most frequently in high-strung persons who habitually live and work under nervous tension. Absolute diagnosis of gastric ulcer depends upon x-ray examination and gastric analysis. A small ulcer or erosion may not be demonstrable on an x-ray picture. For insurance purposes an erosion is regarded the same as an ulcer. An applicant who has had a single attack, which was treated medically or by excision operation, if symptom-free, may be issued life insurance with an extra rating during the first five years following the attack, and subsequently in-

surance at standard rates may be issued. A single attack requiring gastro-enterostomy requires a higher rating and standard insurance cannot be issued within 10 years of the attack. Recurrent attacks or repeated operations markedly increase the hazard.

Duodenal ulcer is considerably less serious than gastric ulcer as far as insurability is concerned, therefore it is important to distinguish between them. Medically treated cases or those in which the ulcer has been excised are generally not issued life insurance at standard rates until after five years of freedom from symptoms, while those cases in which a gastro-enterostomy has been performed require a somewhat higher rating and must have been symptom-free for a longer period. Two or more attacks or operations add materially to the risk.

Achylia gastrica has given more favorable results in applicants under age 50 than in those above this age. In these cases, pernicious anemia and syphilis must be ruled out. The most favorable cases require an extra rating if insurance is to be issued at all. Intestinal diverticulum is most common in overweight persons of stocky build, and the history is frequently that of dietary indiscretion with pain in the left lower quadrant, nausea, fever and rapid pulse. After operation there may be a recurrence and this must be taken into account in assessing the insurance hazard. Prognosis is generally good in acute cases operated on early.

Nervousness is responsible for many cases of indigestion and there is a frequently encountered group of symptoms generally labeled "nervous indigestion." All such cases require close study in order to rule out organic disease. The best of these risks, persons careful study of whom has failed to reveal organic disease, may be issued insurance at standard rates or with a slight extra rating.

There is still a rather large group of cases that must receive the label "indigestion." This group includes gastritis, gastric "catarrh," dyspepsia and hyperacidity. Applicants who have suffered attacks requiring treatment or diet, or repeated mild attacks, may require a slight rating for life insurance.

PRURITIS ANI ASSOCIATED WITH MENSTRUATION (C. C. Wilson, Kansas City, in Jl. Mo. Med. Assn., Oct.)

Some patients are sensitive to their own menstruation and give a history of asthma, urticaria, hives and eczema. Injury to the skin subjects the patient to allergic contact with menstrual flow. Surgery in these cases is definitely contraindicated; in fact, it aggravates the itching. The treatment of choice is stilbesrol, thyroid extract and nicotinic acid. The etiology should be determined as nearly as possible on all pruritis patients and the treatment should be based on these findings.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

GROSS SURGICAL PATHOLOGY SEEN IN NEW YORK CITY

AT THIS YEAR'S graduate fortnight of the New York Academy of Medicine, devoted to disorders of the digestive tract, morning round-table discussions, afternoon clinics at the larger hospitals and evening addresses at the Academy by nationally known invited guests were followed for an hour each day by demonstrations of gross fresh pathological material by one or more of the New York pathologists. The medical examiner of the City of New York and his staff perform autopsies on 5,000 of the 16,000 persons who die in the city every year and in addition each hospital has a pathologist to determine the cause of death in patients who have died in that institution. From the combination of these sources there is a large and a continuous supply of material which enables one to see in a short time morbid anatomy that otherwise one could not hope to see in a lifetime.

The stomach of a middle-aged woman who had died of massive hemorrhage into the stomach from penetration into the head of the pancreas by a large ulcer is shown. However, section of her brain beautifully demonstrates a tumor, the size of an acorn, in the brain substance near the base which in some way had caused the ulcer at the pylorus. This relationship has been described by Cushing and the stomach lesion is known as Cushing's ulcer. The brain lesion had not been suspected and would not have been found had a complete autopsy not been done.

A child with extensive burns of the body and the extremities died on the tenth day. The cause of death was found to be peritonitis from perforation of an acute duodenal ulcer, a lesion which has been described by Curling as a complication of burns and which is known as Curling's ulcer.

A man died after subtotal gastric resection for a pyloric ulcer. The specimen removed at operation shows the distal end of the stomach with a chronic ulcer on the lesser curvature. The specimen removed at autopsy, the proximal end of the stomach, shows an acute perforation of an ulcer at the cardia, which had not been found or even its presence suspected. The cause of death was peritonitis.

A young matron died in shock after hysterectomy. At autopsy the small intestine shows many bruised oval markings from having been grasped and roughly manipulated at operation by forceps made for holding gauze sponges. She died from massive hemorrhage into the intestine caused by the trauma.

A fat man with cancer of the sigmoid died of shock on the operating table after resection of the growth. The specimen removed contains much of the base of the bladder attached to the cancerous sigmoid. Inability in a deep pelvis with a thick perineum, to visualize the operative field made it necessary for the surgeon to do his work blindly. Fusion of the tissues with loss of cleavage lines made accurate orientation impossible.

During a five-day visit perhaps a half dozen specimens of melanosis of the colon were seen. In this condition the mucosa throughout the entire length of the colon and the appendix is jet-black from the deposit in it of melanin pigment. The discoloration stops sharply at the ileo-cecal valve and never extends into the small intestine. It is found in elderly people with colonic stasis, whether from simple constipation that has been allowed to persist or from chronic obstruction by a cancerous growth. The condition causes no symptoms and is without clinical significance. It has no relationship to melanotic sarcoma (black cancer). Although Stewart and Hickman report having found melanosis coli in 11% of 600 autopsies, the writer does not remember to have ever seen the discoloration in an appendix that had been removed; nor has he seen it at autopsy.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

NEPHRECTOMY IN UNILATERAL KIDNEY DISEASE WITH HYPERTENSION

IT HAS BEEN thought possible that arterial hypertension could be caused by intrinsic unilateral renal disease and hence that it might be cured by nephrectomy of the suspected kidney. Further, where results of this treatment have not supported the conclusion, the argument has been advanced that failure to reduce the blood pressure in a patient with a long-standing unilateral kidney disease and hypertension might be explained on the basis of irreversible vascular changes in the remaining kidney capable of maintaining the hypertensive process.

Weiss and Chasis¹ have recently reported a case in which the post-operative persistence of hypertension appears to disprove this argument, for the "renal blood flow in the remaining kidney excludes the possibility that chronic irreversible vascular changes resulting in ischemia of this kidney is maintaining the abnormal elevation of blood pressure."

The case is that of a white woman of 34 who had high blood pressure following the birth of her 4th child. There was no previous history of serious illness and no family history of hypertension or

cardiovascular disease. Physical examination disclosed no abnormalities. The blood pressure varied between 150 to 170/90 to 120 with occasional slight fever.

The left kidney was found to be smaller than normal and the right kidney larger but normal in appearance. The patient was treated with sulfathiazole and later sulfadiazine.

Two months after the first examination the blood pressure had risen to 185/135 and the slight fever continued (this latter was later considered to

be normal for the patient).

The left kidney was removed after a further four months interval and post-operative observations showed extreme functional impairment of the kidney. "The glomerular infiltration rates, effective renal flow and maximal tubular excretory capacity were definitely reduced. The functional size - - was approximately one-seventh the normal kidney." There are many impotent nephrons.

"Following the operation the blood pressure was even higher than before, with levels of 170 to 200/120 to 140," and this was still the state of affairs twelve months after operation, with added symptoms of shortness of breath, fatigue and gain

in weight.

The glomerular filtration rate, the effective renal blood flow and the maximal tubular excretory capacity were measured in both kidneys preoperatively and in the remaining kidney postoperatively. In the right kidney these functions were increased one-half the mean normal value, and postoperatively the effective renal blood flow, filtration rate and maximal tubular excretor capacity increased to the point that "this one kidney, functionally speaking, is now the equal of two normal kidneys. The ratio of blood flow to functional tubular tissue is now in the normal range."

These writers conclude, reasonably enough from this case, that as removal of the diseased kidney failed to lower the blood pressure, though the remaining kidney was neither diseased nor ischemic, the "intrinsic unilateral renal disease in this patient was not causally related to the arterial hypertension."

1. Failure of Nephrectomy to Influence Hypertension in Unilateral Kidney Disease. Edward Weiss and Herbert Chasis, J. A. M. A., Oct. 2nd, 1943.

STAPHYLOCOCCAL VACCINE-TOXOID COMBINED IN HUMAN IMMUNIZATION

(F. B. Faust & S. Etris, in Jl. Immun., May)

Normal individuals receiving ten injections of staphylococcal vaccine-toxoid combined (Vatox)! showed a decided increase in both agglutinins and antitoxin. The average increase of agglutinins was 57-fold and the average antitoxin increase 10-fold when compared with pre-injection levels.

Patients with known or suspected staphylococcic infections were less responsive to antibody stimulation than the

1. Product Staphylococcus "Vatox" of the National Ding (o.

normal group, although the serum of a patient with staphylococcal proctitis contained, after vaccination, agglutinins and antitoxin in greater quantity than the average of the normal individuals.

The use of staphylococcal vaccine-toxoid combined is a logical approach to the dual stimulation of antibacterial and antitoxic substances in the treatment of staphylococcic infections.

OBSTETRICS

MANAGEMENT OF TOXEMIA IN THE LAST TRIMESTER OF PREGNANCY

That there is much confusion in regard to the so-called toxemias of pregnancy is recognized. Then an article¹ is written in the light of the writer's experience which gives clear-cut opinions and advice.

Sixty per cent of normal pregnancies are accompanied by varying degrees of edema. Women without edema rarely have toxemia; 10-50% of women with edema develop toxemia. The prevention of eclampsia is based upon measures to combat gain in weight with retention of water and sodium and continual vigilance to detect the first signs of toxemia.

The recording of the weight and blood pressure, search for evidence of edema, and examination of the urine should be carried out routinely at regular visits, beginning with a complete physical examination as early in pregnancy as possible. Essential hypertension and vascular-renal disease, and the larger group of normal patients with edema, are recognized early.

The diet should be adequate, but not excessive. Lean meat, eggs, milk and abundant fruits and vegetables are the chief elements. Fat and salt should be restricted. If the weight gain exceeds one-half pound per week, and during the latter half of most pregnancies, the diet should be low in salt or even salt-free, and no medicinal preparations containing sodium should be used. These measures with sufficient rest, usually suffce to prevent the more severe form of edema and preeclamptic toxemia.

If b.-p. rises to 140-160/90-100 and there is less than 0.6 Gm. of albumin per 100 c.c. of urine, the patient should be seen at least once or twice per week. She should bring a sample of the measured 24-hour urine output for quantitative albumin determination. Diet should be: 60 Gm. of protein, 30 Gm. of fat, and 400 Gm. of carbohydrate with less than 1 Gm. of sodium salt. Adequate rest at night with periods of rest during the day should be assured. Small doses of phenobarbital often serve a good purpose. If there is much edema, ammonium chloride 1 Gm. six to eight times per

¹ W S Bump, Himelander, in Wise Med M. Oct.

day. Begun early, such management usually prevents further increase in the severity of the symptoms.

If, in spite of this management or perhaps through lack of management blood pressure above 160/110, with urine-albumin over 0.6 Gm., marked edema especially of the face; if weight suddenly increases two pounds or more per week; or especially if there are cerebral, visual, or gastrointestinal symptoms, hematuria or oliguria, hospitalization is clearly indicated. In the hospital the 24-hour urine output is measured daily, and a specimen is examined. The b.-p. is recorded t. i. d., and a strict 1,200-calorie diet of fruit, fruit juices, and sugar is instituted.

When the toxemia is progressively severe, it may demand emptying the uterus.

Insidious, unexplained, progressive fall in the arterial pressure may be the earliest sign of impending disaster indicating that convulsions are imminent — indications for terminating the pregnancy.

Other indications:

"A. The systolic b.-p. is constantly 170, or shows a persistent daily increase.

A. The proteinuria always exceeds 5 Gm. per 24 hours or the qualitative test of the 24-hour urine is 3-plus.

A. The weight gain exceeds 100 Gm. per day.

A. Marked edema suddenly occurs.

B. Cerebral, visual, or gastrointestinal symp-

B. Oliguria, anuria, or hematuria occur.

B. Jaundice develops.

B. The blood nonprotein nitrogen is 50 mg. per cent or more.

B. The pulse rate is 120 or more.

B. Edema of the lungs or cyanosis occurs.

B. The blood shows an increasing concentration as indicated by a high or increasing hemoglobin, cell volume, serum protein concentration, or sp. gr.

"Gestation of 26 weeks or less should be terminated if more than one of the listed criteria are present or if there is no appreciable improvement after seven days of adequate treatment.

"Gestation of 27-31 weeks should be treated medically until 32 weeks, unless some 'B' signs develop or the 'A' signs persist despite treatment or increase in degree.

"Gestation of 32-40 weeks, if 'B' signs are absent, should be treated medically until the cervix is 'ripe' (effaced and partially dilated), when induction of labor will be successful. If the 'A' signs increase in degree or if any of the 'B' signs appear, the pregnancy should be terminated by 1) rupture of the membranes and/or the insertion

of a bag, or 2) cesarean section if the cervix is uneffaced and closed."

Another reason for the termination of pregnancy is the threat of permanent vascular-renal disease from prolonged toxemia.

When convulsions do occur treatment entails general care and rest, sedation, and especially the production of diuresis before any mechanical interference.

Dieckmann's treatment of eclampsia is endorsed by Bump:

The patient is placed on her side without a pillow in a quiet, darkened room, and kept under constant observation to prevent injury to the tongue, falling out of bed, aspiration of vomitus or drowning from excessive pulmonary secretions. A catheter and aspirating machine should be available for removal of fluid from the throat. A mouth gag (clothes pin, tooth brush) should be at hand. A catheter should be kept in the bladder. The t., p. and r. rate, urine volume, and b.-p. should be determined q. 1 h. until the patient is conscious and improving. This period is then lengthened to four hours and later the intervals are increased still further. The number of convulsions, the degree of coma, the quality of pulse, difficulty in breathing, cyanosis, etc., should be noted.

For sedation he uses several drugs simultaneously, because smaller doses of each are required, and thereby the undesirable effects of each are minimized. Magnesium sulfate 10 c.c. of a 50% solution is injected into the gluteal muscles on admission, and repeated in doses of 2 c.c. after each convulsion until the convulsions cease or 20 c.c. have been given in 24 hours. Five grains of luminal sodium are injected subcutaneously, and repeated, s. o. s., in 12 hours.

Morphine, ¹/₄ grain, may be given hourly until the convulsions are controlled or respiration drops to 10 per minute. Chloral hydrate, 2 Gm. in 100 c.c. of starch water, may be administered by rectum and repeated as necessary.

For diuresis an intravenous injection of 500 to 1000 cc.. of 20% glucose over a period of 30-50 minutes, repeated q, 6-8 h. If the urinary output is less than 30 c.c. per h., or for the first 4 h. is not 60% of the amount injected, smaller amounts of 30 or even 50% glucose are administered.

Blood or plasma transfusion is the best measure in circulatory collapse. *Venesection is harmful*. Transfuse slowly (500 c.c. in two or three hours) with the patient in the orthopneic position to prevent cardiac asthma or pulmonary edema.

When severe paroxysmal dyspnea, asthma, or pulmonary edema occurs, rapid digitalization is indicated—0.5 mg. strophanthin, or 0.5 to 1.0 mg.

of digitoxin. If the pulmonary edema is *due to* congestive failure, not circulatory collapse, the application of tourniquets about the extremities is indicated or removal of 500 c.c. of blood.

Nothing should be given by mouth when the patient is having convulsions or is in coma. Later,

water and fruit juices are indicated.

If the eclampsia is mild and controlled by treatment nothing more is indicated until the cervix is effaced, and partly dilated. Then, if labor does not ensue spontaneously, it is induced by rupture of the membranes with or without insertion of a bag. In many cases cephalopelvic disproportion requires cesarean section.

Eclampsia is severe if one or more of the following findings are present:

- "1) Coma.
 - 2) Temperature of 39° C. (102.2°F.) or more.
 - 3) Pulse rate over 120.
- 4) Respiratory rate over 40.
- 5) More than 10 convulsions.
- Cardiovascular impairment (edema of the lungs, persistent cyanosis, low or falling b.p., and low pulse pressure).
- 7) Failure of treatment-
 - a) To stop the convulsions or prevent their recurrence.
 - b) To produce a urinary output of at least 700 c.c. per 24 hours.
 - To prevent the onset or increase in degree of coma.
 - d) To produce a dilution of the blood as indicated by a decrease of at least 10% in hemoglobin, call volume, or serum protein concentration."

When the eclampsia is severe, the pregnancy should be terminated after 8 to 12 hours of medical treatment by rupture of the membranes with or without the insertion of a bag, provided the cervix is "ripe." If the cervix is long and closed and the gestation is of 23 weeks or over, cesarean section is indicated.

PEDIATRICS

MUCH ADO ABOUT POLIO

Most of us have suspected all along that the Kenny treatment was not all its enthusiastic proponents represented it to be. None but believers in miracles could readily assimilate the idea that to a relatively untrained person, or to any one for that matter, would be revealed a cure for a disease condition whose grave symptoms and fatalities are due to degeneration of nerve cells. Then Sister Kenny's vocabulary abounds is vague terms, used ap-

parently with new (but still vague) connotations. Downright facts can be stated in a plain way.

Dr. Blount (we wonder if his ancestors migrated from North Carolina. Blount has been a good name in this State from its very beginning) has written judiciously¹ on this subject. It would be well for Sister Kenny and her publicity men to read him.

Most of the cases will still have to be treated in the home. The hot packs which relieve the soreness and spasm, the firm flat mattres and foot board, and sedation can be employed there, less conveniently, but almost as effectively, as in the best institutions. The preliminary treatment can be carried out satisfactorily with intelligent supervision. The follow-up care requires a nurse or physiotherapist who has been trained in muscle reducation. In the average case it is possible to obtain satisfactory coöperation from the parents who may be shown the simple exercises.

There is a growing feeling that every case of polio must be rushed to an institution. This is a mistake. Hospitals such as the Wisconsin Orthopaedic have as many cases as they can care for. We have no assurance that the case treated by them will have better results than those treated in the home and later in physiotherapy institutions and orthopaedic schools. The work of McCarroll of St. Louis has shown that the extent of the paralysis depends upon the degree of the anteriorhorn-cell involvement and little else. No amount of compressing and psychology will change this paralysis. Spontaneous improvement is the rule and complete recovery is common even without treatment. The likelihood of permanent paralysis has always been the feature of the disease which horrified parents. Neither the orthopaedic surgeon nor Sister Kenny has been able to do anything about this, and we have been primarily concerned with the prevention of deformity and secondarily with the improvement of function. Scientific investigation has been stimulated by Sister Kenny's tempestuous arrival. With the increase in our factual knowledge, we may hope for further improvement in the treatment and eventual eradication of the disease by prevention.

The Kenny System does not concern itself with the paralysis based on nerve-tissue damage. There seems now to be evidence that there is likely to be less deformity than with other methods of care. It also seems that the average patient is more comfortable in the acute stage. Deformity does occur, however, and not all of the patients are more comfortable even when treated by Sister Kenny herself.

Sister Kenny has performed a great service for humanity. The medical profession has been jolted out of its complacency. Scientific research has been stimulated and directed into new channels. Attention has again been called to the unexplained symptoms of the disease. The unappreciated experimental work of the pas' has been dusted off and brought out for scrutiny.

The most deplorable things about the whole Kenny episode are the high-pressure, supersales methods and unrestrained advertising. The general public has come to demand Kenny treatment. From what they saw at the movies and beard over the radio the people have come to direct the treatment of polio. Medical practice has been taken out of the hands of the doctor.

Sister Kenny has shown no restraint in her public utterances. Even those who have learned to appreciate her concept and her method must be reserved in their prognosis. A medical man may safely say to the parents: I shall use the Kenny method as far as it is compatible with common sense and medical knowledge. I cannot promise how far your child will recover.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

WHAT ADVICE SHOULD WE GIVE OUR PATIENTS CONCERNING THE USE OF THEIR EYES?

FROM MY OWN OBSERVATIONS over a long period of time I have felt the need for a discussion of this subject on the basis that nearly every person harbors an ingrained and morbid fear of becoming blind or of injuring his eyes by common use, more particularly if suffering from some disease of the body or of the eyes, and under the stress of certain vocational and environmental activities. This phobia is not single to the laity, but is all too common among physicians.

What is the basis for the prevalence of such a belief? One cannot say it is founded upon scientific grounds or upon sound teaching. If this then be true such fears have been kept alive by wordof-mouth from generation to generation through the medium of ignorance, augmented by those who exploit the ignorant. Unfortunately many physicians nurture these phobias by their advice for the care of the eyes, advice based neither upon a clear knowledge of the functions of this special-sense organ nor upon its capabilities to work efficiently and safely under many adverse conditions. When advice about the eyes is asked for by their patients they have advised against reading in bed, against use of the eyes for near work of any type when suffering from certain physical ailments or during convalescence from them. Too often I find patients of other physicians who have been denied by direction or by self-imposed restraint the comfort, pleasure, relaxation and edification of reading while convalescing from an illness at home or in a hospital, or while under treatment for general physical conditions while ambulatory. What should be our advice in this particular? That with only the rare exceptions of extreme acute physical depletion, or severe acute disease, should reading or other use of the eyes for detail work of a diverting and entertaining nature be interdicted. To use the eyes under any other circumstances is harmless: indeed, it is an adjunct to treatment and an aid to a more rapid convalescence in many cases. Similarly, reading or other close work should not be severely curtailed in any disease of the eve with few exceptions. Common sense dictates that an acutely sick or injured eve may not be used. The eve of itself will not permit it because of pain and blurred vision, or because more often than otherwise the affected eve is occluded or excluded from the function of seeing. In the majority of instances the unaffected fellow may be used with safety to both. Certainly no permanent damage can be thus done to the visual functions of either. If in the act there is discomfort or pain in either eve reading or other use is beyond accomplishment and the eve will not function. It will assume the prerogative of being its own physician.

Such statements as these are made to me almost daily:

I have beginning or well advanced cataracts and have been told I will ruin my eyes if I use them;

I have only one eye and it is being damaged because it does all the work;

I have defective sight and use glasses and should not use my eyes beyond the bare necessity of carrying on my vocation;

I should not ever remove my glasses except just before retiring;

My child wears glasses for a defect in sight and his eyes will be ruined because he frequently takes them off at play or otherwise dispenses with them at times;

My eyes are being ruined or were made defective by study or by my vocation.

Many elderly people are seen who have not read for months or years for fear of injuring their eyes because of the advice of some friend or relative, or have been otherwise enioned, and so made miserable and unhappy while possessing eves entirely capable of serving their function. The fear of straining the eyes has become an obsession in the mind of the laity. It is unfortunate that the term eye-strain was coined for use in the field of ophthalmology, for to the laity it conveys the impression of something of serious import and too frequently serves as an avenue of escape for them in many activities in which the eyes can be safely used. Fatigue of the eyes would be a better term

because it denotes clearly what is meant and what is happening to the eyes when they complain. The state of affairs is accurately and fairly told to the patient by comparing the eye state to that of fatigue of any muscle or group of muscles when overworked; and the same remedy, rest, is indicated. Patients should be given to understand that defects in vision play a part, like an abnormality in any member of the body plays against its proper function, but not to the extent generally believed. More general knowledge should be had that fatigue of the eyes is more often produced by anomalies of the extrinsic and intrinsic muscles and from general physical and nervous depletion, or from a combination of the two, commonly with a background of emotional instability. Other minor exciting causes are improper lighting, faulty position at work, size and speed of movement of the object looked at and inability on the part of so many people to relax the accommodation when using the eyes for any purpose.

It is not probable that vision can be permanently injured by the use of the eyes for any purpose where common sense principles are adhered to. Our patients should be converted to this viewpoint by sane and practical advice, and their phobias concerning their eyes dissipated by the same methods. At the same time we should make them more aware of the fact that the proper functioning of their eyes is predicated more upon wholesome living and upon a healthy body than upon any me-

chanical adjuncts to vision.

HOSPITALS

R. B. Davis, M.D., Editor, Greensboro, N. C.

HOW MUCH SHALL WE RAISE SALARIES?

THE BELIEF that appreciation on the part of the employer is measured by the amount of salary or wage is general. Personal consideration coupled with accommodation constitutes a goodly percentage of the appreciation residing in the heart of the employers. The operators of hospitals, particularly private hospitals, are now going through trying times. Nurses, orderlies and maids who work in a private institution expect more personal consideration and liberty than those who work for the larger city, county or state hospitals, and it is this attitude on their part that makes them a little more easily discouraged or offended in regard to the salary problem. It is not difficult to understand that loyalty places someone under obligation, but high effort is reached only when employer and employee are loval one to the other.

It is a grave mistake for any employer to feel that a fat envelope justifies when he is discour-

teous, rude, unreasonable and unfair to any employee. The sooner an employer of this type is converted-whether he be washed in the blood of fairness and justice, or chastened under the voke of trials and tribulations makes little difference. For the most part it is far better to kill disloyalty with kindness and persuasion than to attempt to browbeat or bulldose an employee into loyalty. Some employers seem to think that a ready tongue with a temper for governor will create loyalty and devotion to duty. The use of profanity may temporarily create a false type of loyalty which becomes laughing-stock among the employees when the Big Boss's back is turned. An efficient employer will not tell an employee of his own difficulties while he was climbing the lower rounds of the ladder, but instead, will speak of the pleasant part of that journey. Then encourage the employee to enjoy today rather than expect a bed of roses tomorrow. More often than otherwise encouragement, kindness and soft-spoken words, with a plea in the favor of the right, will do much more good than fault-finding. This plan does not in any way contradict or oppose the requirement of efficiency. One can be strict and demand efficient service without being rude, inconsiderate or unreasonable.

It would make a one-sided discourse to stop here. Since there are so many more employees, there must exist do's and dont's for them. First of all employees must realize that during these abnormal times all businesses do not share in the get-rich-quick program. For an individual or institution not deriving income from the war program these are trying times. Civilian hospitals fall into this class, for the Army, Navy and Marine Corps care for their own sick and wounded with the Government's money. The increase in income of the average hospital does not approach the increased expense of operation. If this were any one's fault it would be as much the employees' as the employer's. It follows that the employee must have the right attitude in regard to salary rather than to assume that the institution or business which pays his salary is making the same profits as a war contractor. The fair employer will admit that wages must be raised some to take care of increased living expense experienced by everyone during inflation. But the employee should also realize that it is necessary for him to make an extra effort for the business to be able to raise the salary. He should do this with a smile rather than a frown. Far more important it is that he realize that exorbitant salaries will vanish like snow before the sun when the war is finished. No country can continue to progress, even to survive, when it private industry generally. People without income will be just as hungry and just as cold as they were during any other depression. Then it will be necessary for private industry to save the day, and that great mass of citizens classified as employees had better take notice that tomorrow will be a new day and that tomorrow they will need their old jobs.

How much then shall we raise salaries? Every employer will have to take into consideration that his business may survive when the depression comes. Otherwise the outgo of the institution he heads will exceed the income, and then the institution must cease to function as an employer of men. The employee must realize that he will need a job in the future just as badly as he has needed one in the past. Let us hope that a fair solution can be reached quickly of the problem of employer and employee salary income. A day will come when present loyalty will be recognized and that day is not too far in the future. Let us hospitals pay as much salary as the increase in our income justifies, but let us not cripple our industry in attempting to satisfy restless employees who insist upon unreasonable salaries and wages. Employers should recognize with the highest degree of appreciation the loyalty of an employee.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

A SEGMENT OF A CROSS SECTION OF GENERAL PRACTICE

An article on each of several conditions we are called on to treat is abstracted for this Department in this month's issue.

THE HYPERTENSION HEART¹

PATIENTS with high degrees of hypertension may work without symptoms of congestive heart failure from 15-20 years. A moderate degree of coronary arteriosclerosis may cut down this expectancy materially.

The majority of individuals with hypertension who die of heart failure show coronary arteriosclerosis.

Treatment of the heart in hypertension differs not at all from the treatment of congestive heart failure produced by organic disease of the valves. Frank heart failure demands strict bed rest and a low-salt diet. No salt added to the food by the cook, no salt at the table, salt-free butter, very little bread, many cereal foods. If salt intake is low there is little tendency to edema formation, even with a daily intake of 1500 c.c. of fluid. Wherever there is congestive heart failure, on giving digitalis in proper dosage dyspnea and edema

will usually disappear. One can frequently keep a heart going moderately well through the use of digitalis for a number of years. Digitalis, one cat unit per day, year in and year out, has been given for many years without harm to the heart or other organs. There is nothing to fear from digitalis raising the blood pressure. If digitalis raises the blood pressure it raises it only because it increases the output of a failing heart.

In emergency situations of severe left and right heart failure cedilanid works almost as promptly as strophanthin, and is less dangerous. Patients with left heart failure, with lung edema and terrific dyspnea, may be smiling and breathing easily two or three hours following an intravenous injection of .1 gram per 10 pounds of body weight, half at once and the other half within an hour. I frequently give the whole dose in one injection.

Theobromine and theophyllin and mercurial diuretics aid in the elimination of edema. Oxygen by tent or Boothby mask flow at six liters often helps. Auricular fibrillation in hypertensive heart disease responds favorably to quinidine if there is no mitral stenosis.

Occasionally we can reduce blood pressure by use of potassium sulfocyanate, the level in the blood not being permitted to go over 12 mg. per cent. It should not be given if there is reduced kidney function or severe coronary disease.

One gain of the drug, t. i. d., blood level ascertained at the end of each week, and increasing the dosage by one or two grains a week until a level of 12 mgm. per cent is reached or the blood pressure has dropped nearly to normal.

I have experienced no unpleasant results from this treatment, other than flushing of the skin, which is an indication for termination of the treatment. About 20 per cent of patients with high blood pressure will show marked drop in blood pressure, thus insuring in all probability some increase in life expectancy. Many patients will not respond with significant drops in blood pressure and a continuance of the drug is not to be recommended excepting for the relief of headaches. Another 20 per cent will show moderate degrees of fall in blood pressure which should encourage the further use of the drug. The patients are treated ambulatory but the blood level, the blood pressure, and the general condition of the patient should be determined at monthly intervals.

Management of Patients With Coronary Sclerosis

WE ARE ALL agreed, says Barnes,² on rest in bed of five to six weeks following acute coronary occlusion, and not to allow these patients to resume work for months and in some instances for from

^{1.} George Fahr, Minneapolis, in Minn. Med., Sept.

^{2.} A. R. Barnes, Rochester, Minn., in Minn. Med., Oct.

one to two years. In much of this time the patient is allowed to be up eight to 10 hours daily, to walk if it does not result in any distress. The resumption of any business responsibility is prohibited.

Angina pectoris without a history of acute coronary occlusion is not uncommonly associated with chronic and presumably slow closure of one or more branches of the coronary arteries. Closure of one or more branches is likely when mild angina suddenly becomes more severe or frequent, when angina pectoris decubitus appears and when the anginal syndrome suddenly reappears after a patient has been free from pain for a considerable period after acute coronary occlusion. Such a patient is put to bed for rest periods the same as for one who has had acute occlusion.

In a very large number of cases in which acute myocardial infarction has not occurred the ecg. is normal when coronary sclerosis and angina pectoris are present, unless the tracing is taken during an attack of angina or during anoxia induced by having the patient breathe 10% oxygen for 15-20 minutes. We are deeply concerned that the patient reduce his activities to a point where the attacks are not produced, prescribing rest in bed for considerable periods when this result cannot be accomplished. More frequent and prompt resort to nitroglycerin to cut short the attack of pain seems indicated.

Coronary occlusion and advanced coronary sclerosis occur in those who have driven themselves to excess. After prolonged rest the patient is more apt to resolve that upon resumption of activity he will adhere to a sensible program of living.

THE USE OF SULPHOCYANATE IN HYPERTENSION

HAVING made use of KSCn. for four years in private practice and at the Heart Clinic at the University of Minnesota, Scherer³ presents observations on the effect of KSCn. upon 60 individuals with hypertension.

The average systolic fall in b.-p. was 37 mm., diastolic 17.5 mm.

Fifty-one cases had ecg. studies and 23 of these tracings showed myocardial damage, not including left-axis deviation or those showing depressed RT interval in lead 1 with left-axis deviation.

Of the 34 patients complaining of headaches, 31 received complete relief, one was improved and two received no relief.

Out of 60 hypertensive individuals treated with KSCn., 41 obtained significant lowering of the systolic and diastolic b.-p.; 37 having subjective symptoms were completely relieved of these; 10 had slight or no relief.

Toxic phenomena appeared in 11, one of which was rather severe. These appear at lower concen-

trations than usually described.

KSCn. should not be used unless careful clinical and laboratory observations can be made at frequent intervals.

Further studies should be carried on, particularly in attempting to determine the basis for the action of the drug.

TREATMENT OF NAIL PUNCTURE WOUNDS OF THE FEET

An original method⁴ of handling these pestiferous wounds is:

The patient is placed flat on a table with the foot slightly elevated. Rubbing alcohol is swabbed over the wound which is usually sealed and looks insignificant. Using a double-edged razor blade flexed between the thumb and fingers to make a curved cutting edge, a circular patch of plantar callus 1 inch in diameter is removed, leaving thin pink skin around the nail hole. At this depth there is a jagged opening containing bloody watery fluid and often dirt, sand, or rust. The edges of this wound are trimmed with the razor blade or with cuticle scissors and debris picked out of the wound with small forceps, or washed out with soap and water or peroxide, using pledgets of cotton. Alcohol is again applied and the wound protected by a small dry dressing. The patient is advised to remove this dressing before going to work next day, by which time the wound is usually dry and almost healed and needs no further protection. Antitetanic serum is administered to all such patients,

Keep the leg elevated on two or three pillows, well above the body for 12 hours. Thereafter this position is assumed for 20-minute periods every four hours for the next few days if there is any swelling or pain. He is cautioned not to soak the injured foot in hot water.

SURGICAL TREATMENT OF THE AGED

AGE, measured in years, is not at all the same as physiologic age. No person's body is of the same physiologic age in all its parts. An old person suffering from a condition for which surgical relief is possible usually is a more willing candidate for operation than is the younger sufferer.⁵

In many cases some condition other than that for which operation is contemplated ends the patient's life before he can receive benefit from the proposed operation. Relief of pain, even for only a few months, often is of more importance to old people than cure.

Life may be almost as miserable to an old man with a huge hernia which no truss will hold, or to a woman with complete procidentia, as to the pa-

^{3.} Raymond Scherer, in Jl.-Lancet, Oct.

^{4.} M. A. Walker, in Jl. of Kan. Med. Soc., 43:453, 1942.

^{5.} O. T. Clagett, Rochester, Minn., in Minn. Med., Oct.

tient with malignant obstruction of the pylorus. The probability of resultant high morbidity and mortality should not deter the surgeon when intolerable life, or certain death, are the only alternatives to operative intervention.

No unnecessary restrictions should be imposed and smoking or the moderate use of alcohol should not be forbidden without valid reason.

Old patients as a group react quickly and with maximal response to small doses of sedative and narcotic drugs.

Surgeons disagree as to what is the best means of anesthesia for operations on old people, and most surgeons seem to have rather strong preferences on the subject. Probably the skill of the anesthetist is more important than choice of anesthetic.

Most surgeons agree that to get these patients up, at least to the extent of sitting on the edge of the bed, within a day or two after operation, greatly reduces the chances of development of pulmonary and circulatory complications.

THERAPEUTICS

J. F. NASH, M. D., Editor, Saint Pauls, N. C.

THE MEDICAL MANAGEMENT OF THE PATIENT WITH ARTERIAL HYPERTENSION

Most writers on hypertension say that the relief of nervous tension is the most important objective in treatment. White tells us how to relieve the tension.

Animal experimentation and newer methods of physiologic study of kidney function in man have, in the past decade, increased our knowledge of the hypertension problems to a remarkable degree. Whether our means of relieving the patient subject to this malady have been greatly increased thereby remains yet to be seen. In the meantime, we should continue to avail ourselves of all the methods by which amelioration of the process and its consequences can be obtained.

More than medicines, more than ablation of a portion of the sympathetic nervous system, or removal of a supposed renin-producing kidney, the great majority of hyperreacting patients require reassurance, education and training in relaxation. A successful operation requires time and unhurried procedure. One practicing in the field under discussion must proceed in like manner. Each case is to be approached with a consideration of the patient's temperament, background of education and training, and capacity for understanding.

For reassurance, it is necessary first to dispel many of the impressions current concerning hyperto dismiss the problems of the day and relax as if

he were about to take a nap. The physician's voice

is low, his movements are unhurried. The patient is

instructed to relax every part of the body, neck,

back, arms and legs. Gentle palpation of muscle

regions will often reveal that some parts are not

relaxed, and this can be indicated to the patient.

He may be asked to relax each part in turn. Fre-

quently records of b. p. are made as the time goes

on. When it seems that good relaxation has been

obtained, it may be well for the physician to leave

the room for a brief period, explaining to the pa-

tient that he must remain relaxed, even upon the

physician's return, that he will not be forgotten

tension, and to forestall as much as possible the

misinformation soon to be given by friends and

relatives, as well as by newspaper columnists. One

must first attempt to convince the patient that the

problems and course of some other patient, whose

disorder has the same name, or who may have one

or more of the same symptoms, are in no sense his

problems. I have often succeeded in getting an

amused tolerance by the patient towards the many

suggestions and directions to be brought from

many sources, by the following suggestion: "When-

ever your friends or relatives bring you this or that

suggestion about diet or medicine, ask them this

question, 'How long have you practiced medi-

cine?'" One of the suggestions I implant early

is that one of the most vicious effects of neighbor-

hood medicine and advice is to wreck many well-

thought-out and intelligently conceived medical

Anger, fear, worry, over-exercise, an overfilled

programs, which would be otherwise effective.

By repeated exercises of this kind, the patient is trained in relaxation, and, at the end of the session, a recital of the pressure changes makes clear

and left for an indefinite period.

stomach, each acts to raise the pressure. Equanimity, serenity, rest, relaxation and sleep contribute to its lowering. If the effect of these factors can be demonstrated on the patient himself, he will have an understanding of the benefit to be obtained. This education by demonstration is begun early in the management, and requires, at least in the beginning, frequent repetition. Some patients learn quickly, some slowly and haltingly, and some try one's patience. The physician requires equanimity as much as does his patient. It is sometimes necessary to let the patient talk, in an attempt to find out why one's education does not take. The "busy doctor," who cannot give the time when needed, has no place in the management of essential hypertension. Relaxation requires recumbency and comfort in a room free from distraction which can be partially darkened at will. The b. p. cuff is adjusted and allowed to remain through the period of study-15 or 20 minutes. The subject is asked

the benefits in the reduction of arterial pressure. At some sessions, the reduction may be unsatisfactory. Environmental or personal reasons may be found. Persistent failure suggests the stabile phase of hypertension and may provide the guide to other measures.

Factors in the environment of crucial significance have been found in many cases. Reduction in their influence may play a vital role in management. The physician can point out ways in which an unfavorable influence may be reduced. Hours of work may require modification. Work must be left in the place of working and not carried home. Hours of rest and relaxation must be detailed and scrupulously observed. An hour of relaxation—better, an hour of sleep—after the noon lunch may be a life preserver. It may be possible to induce a vivacious individual to withstand the temptation to assume the role of entertainer on every possible occasion.

In some cases it is advisable to begin management by a period of rest in bed. This period should be utilized to the full by the physician for training in relaxation. Consecutive Saturdays and Sundays in bed have helped many. It may require a bit of argument to convince an important executive that over a 10-, 15-, or 20-year period ,he would probably do better work, have better health and more money in the bank, if he worked 10, rather than 12 months out of the year.

In younger individuals, a study of aptitudes, and occupational guidance by trained practitioners in the field may be worthwhile. Retirement is often advised with harm to the patient. Lessening the drive will often be of greater benefit than surrendering an objective and usefulness.

Fatigue from preceding emotional over-activity is a common cause of sleeplessness. Many patients scheme to get tired enough to sleep. They often require schooling in the three Rs-relaxation, repose and rest. A short and not-too-brisk walk out of doors just before retiring at night will sometimes release enough emotional stress to accomplish the desired effect. Many people who have difficulty in getting to sleep, or who waken early, will profit by getting a mid-day nap or rest, and by getting to bed early, rather than staying up in the evening. Hot milk or other liquid may be taken unless it increases or causes nocturia. A hot drink if one wakens at night may be an excellent somnifacient. Somnifacients may be useful in tiding a patient over a restless period of two or three nights, with the direction to abstain from them then until one or two restless nights have again been experienced, then repeated to get another good night's rest.

The physician has a profound responsibility beyond that of surgical operation, subcutaneous injections and drugging. It is necessary that he assume his proper role of teacher, mentor, philosopher and guide.

MANAGEMENT OF GONORRHEA IN GENERAL PRACTICE RECOMMENDED BY THE AMERICAN NEISSERIAN MEDICAL SOCIETY*

THE PHYSICIAN must 1) diagnose and treat the disease properly, 2) find the contacts himself and treat them or report the case to the health department for investigation, and 3) treat the patient until the cure is established.

The condom offers the best means of prophylaxis both for the male and the female, but it must be used properly and removed carefully. The hands and external genitalia should then be carefully washed with soap and water. Chemical prophylaxis is satisfactory for men when carried out as follows: The external genitalia, pubic region and adjacent portion of the thighs washed with soap and warm water. The patient urinates. Not more than 6 c.c. of 10% protein silver or a 1 to 2% strong protein silver injected into the urethra and held for 5 min. and then allowed to escape. External exposed areas anointed for 5 min. with a 33 1/3% calomel ointment, this allowed to remain for some hours. Chemical prophylaxis is not satisfactory for women.

The diagnosis of gonorrhea is properly established only by demonstration of the causative organisms by smears or culture; but, if facilities are not immediately available for diagnosis, and gonorrhea is suspected, therapy should be carried out anyway as outlined, rather than to permit delay in treatment.

The treatment:

Sulfathiazole orally in doses of one Gm. 4 i. d., p. c. and h. s., for five consecutive days. At least 10 glasses of fluids daily. Report at once if any toxic reactions are noted. Nausea, headache, vertigo, weakness, irritability and insomnia do not necessitate withdrawal of the drug.

Blood levels, blood counts and urinalyses are unnecessary unless severe reactions occur. The patient must avoid alcoholic beverages and sexual excitement. The course should be repeated after a 3- to 4-day rest. Observation of case for at least three months and regarded as infected during this period.

Evidence of cure consists of four consecutive negative cultures at two-week intervals, the first being taken a week after apparent clinical cure and, in women, one culture taken immediately before menstruation. If sulfonamides fail, a second course may be successful; hyperpyrexia or local therapy may be necessary.

Local treatment is indicated only in sulfonamideresistant cases. When the infection is confined to

^{*}Modern Medicine, Sept.

the anterior urethra, not more than 6 c.c. of a 50% solution of mild protein silver or 0.5 per cent solution of strong protein silver is injected and retained for 5 min. If acute symptoms of posterior urethritis occur, all local treatment should be stopped and only hot sitz baths taken. When the second glass of urine has been clear and the first glass nearly so for two weeks, extremely gentle prostatite massage should be tried and repeated q. 1 3 to 4 days, the secretions being examined every two weeks. If massage is painful or causes recurrence of symptoms, it should be discontinued for one week, or until symptoms subside. In the female, local treatment is usually unnecessary and frequently harmful. Acute salpingitis and Bartholin's gland infections should be treated in hospital. Pregnancy does not contraindicate treatment with sulfathiazole.

Vaginitis of immature girls is usually not gonorrheal and positive culture is mandatory for diagnosis. Isolation, while the discharge is profuse, no local treatment, and administration of the sulfathiazole for seven days, in daily doses of ½gr. per pound of body weight—not exceeding 30 gr. per day if the weight is less than 75 pounds—are adequate.

THE MEDICAL TREATMENT OF PEPTIC ULCER AND ITS COMPLICATIONS

THE TWO CHIEF indications for medical treatment of peptic ulcer are pain and hemorrhage.

In 1931 Meulengrach first advocated the treatment of bleeding peptic ulcer by a liberal diet. With this in view, we are told a dozen years later by the same clincian,¹ the principles of treatment are as follows:

- 1. Bed rest.
- 2. Full pureed diet.
- 3. Tabl. ferrous sulfate 3 gr. t. i. d.
- 4. Vit. A-B-C-D, tab. III, t. i. d.

The patient is permitted to move about freely in bed; after 14 days bathroom privileges are permitted. After four weeks the patient is permitted out of bed.

Under this regimen hemostasis is in no way unfavorably influenced. Convalescence is shortened and the blood picture usually returns to normal in four weeks. The mortality has been decreased from 7-8 per cent to 1-2 per cent. In the cases of particularly large hemorrhage and grave blood-loss the treatment is to be supplemented by repeated blood transfusions.

The nervous element plays an important role in the development and persistence of ulcer. The basic principles of treatment are rest, mental relaxation and diet. The use of alkalis and belladonna is of secondary importance.

1. E. Meulengrach, Copenhagen, in Schweitz. Med. Woch.

An outline of the usual diet for the treatment of pain peptic ulcer:

First day: Milk, oatmeal soup, q. 2 h.

Third day: plus farina cooked with milk, sago

Seventh day: plus all kinds of milk gruels, rice with milk, wheat cakes or zweiback.

14th day: plus gruel, diluted fruit juice, wheat bread, chopped fish.

After four to five weeks: full bland diet.

During the cure feedings should be given every two to three hours.

 Rx
 Ext. hyoscyamir
 3 Gm.

 Sacch. lactis
 3 Gm.

 Natr. bicarb.
 47 Gm.

 Magnes. subcarb.
 47 Gm.

 Sig. 1 tablespoonful t. i. d.

Vit. A-B-C-D tab. 3, t. i, d.

Tobacco should be prohibited.

The frequent feeding should be generous; the patient should gain weight during the course of treatment. In certain cases (ulcus curvaturae minoris penetrosus) the frequent feedings are administered through a permanent duodenal tube for three to four or five weeks.

The medical treatment of peptic ulcer still leaves much to be desired. The frequency of recurrence of symptoms, no matter what type of medical treatment is used, may largely be explained by the great increase in incidence of duodenal ulcer in recent years. There is a particular proneness to chronicity and relapse.

Reports of physicians in this country who have used these principles of treatment are generally enthusiastic. Certainly it is comforting to a patient to get from under the sentence of a milk-and-cream-and-soda diet for an indefinite, but certainly long, period.

TUBERCULOSIS

J. DONNELLY, M.D., Editor, Charlotte, N. C.

DANGERS OF PNEUMOTHORAX

ONE OF THE greatest additions to the treatment of pulmonary tuberculosis is artificial pneumothorax. In this country in some sanatoria as high as 65 per cent of the patients have benefited by the use of pneumothorax or have had it attempted. At many places out-patient departments have been established so that patients discharged from sanatoria may continue their refills, making room in the sanatoria for patients more in need of sanatorium care. Many refills are given in private offices in cities, towns and villages over the country, and enthusiasm for this method of treatment is spreading among the general medical profession and laity,

a fact which has much reduced the fear of this terrible disease.

The laity and a good many physicians are not cognizant of the posible dangers of the treatment. In a recent issue of Diseases of the Chest Dr. Duane Carr discusses the various hazards. He states that the greatest of these lies in the apparent simplicity of the technic. Inserting a needle between the ribs of a patient with an already established pneumothorax is not difficult and no great skill is required to learn which valves to turn to put a few hundred cubic centimeters of air into the pleural cavity. The apparent ease of the operation has led many a practitioner to buy a machine and begin to give pneumothorax refills after visiting a clinic for a few days to see how it is done. If no immediately fatal accidents occur he is tempted to branch out in this work for the community.

The author notes first that artificial pneumothorax is not the complete treatment of tuberculosis, and that the operator of such a thorax machine should know tuberculosis, its various forms of treatment, and the complications of pneumothorax and their treatment. Pneumothorax is valuable in the class of patients in whose cases it is indicated, but it should never be substituted for bed-rest. Some patients do not need it and others should not have it, but need one of the other forms of collapse therapy. Numbers of patients are found to have certain conditions as the pneumothorax develops that necessitate immediate abandonment of the pneumothorax. The continuation of a pneumothorax which is only partially successful in closing a cavity may lead to irreparable damage. Among the cases which should not have pneumothorax are those of so-called "asthma." In these a bronchoscopic examination should be done to rule out the possibility of a tuberculous tracheobronchitis. The author says that a pneumothorax collapse in a patient with a tuberculous tracheobronchitis may produce an atelectasis of the lung with a collapse which can never be re-expanded, often trapping infection in cavities and subsequently causing severe sepsis. Fluid usually forms in the pleural cavity which frequently becomes purulent producing a tuberculous empyema.

Accidents in pneumothorax treatment may, for the most part, be avoided.

- 1. Subcutaneous emphysema results from the puncture of adherent lung at the time of an airinduction attempt. The air, coughed out through such a puncture, may cause a subcutaneous emphysema from head to groin, but the air is gradually absorbed and nothing serious results.
- 2. The induction of a pneumothorax on the wrong side sometimes happens from trusting to a physical examination alone, or to memory after

reviewing an x-ray film. This accident, embarrassing though it is, is usually insgnificant if promptly recognized. Having x-ray films before you while the pneumothorax is being induced is well worth while.

- 3. Perforation of the lung, with danger of air embolism, is an accident which every operator should keep in mind while performing an initial induction or a refill. Air in a peripheral vein or artery passes into the right heart and into the pulmonary artery and is filtered out of the circulation in the capillaries of the lungs. A very small amount of air in the pulmonary venous system passes through the left heart and into the general circulation, with the possibility of a blocking of a cornary artery or one of the arterioles of the midbrain—an accident which may be quickly fatal.
- 4. Tearing of the visceral pleura by puncture of a lung will often cause sudden and total collapse of that lung with such severe distress to the patient that it must be immediately recognized and relieved.
- 5. One of the worst accidents to a patient taking pneumothorax is to have infection introduced into the pleural cavity by the operator. A resultant empyema must be drained, with consequent reevpansion of the lung and loss of the collapse. Such a patient still needs collapse of the lung and consequently must resort to a thoracoplasty or some other major surgical operation.

Important, even dangerous, complications which may occur in the course of pneumothorax treatment as follows:

- 1. Spontaneous collapse can occur due to the rupture of an adhesion in the first few days of induction, or by the tearing of adhesions. A spontaneous pneumothorax may occur on the opposite side. In either case prompt recognition is necessary and withdrawal of the air. Delay may cause a state of shock, which no amount of stimulant, oxygen, or other treatment will correct. Because of the likelihood of these complications, it is very important that the early part of pneumothorax treatment be performed in a hospital or sanatorium.
- 2. Mediastinal hernia can readily be recognized by a good fluoroscopic examination, and readily corrected; although it has escaped attention until the mediastinal pleura ruptured following a very large refill, causing the death of the patient.
- 3. Pleural effusion is the most common complication met with in pneumothorax treatment, and varies from a few centimeters to massive effusions which sometimes are persistent. The factors which have been suggested as causative agents are (1) too rapid induction of air, (2) too high positive pressures, (3) tension on adhesions, (4) lesions in or just beneath the pleura, (5) introduction of

organisms insufficient to cause empyema, but sufficient to cause pleural irritation, and (6) introduction of novocaine or other foreign chemical into the pleural cavity. Small effusions will usually be absorbed without trouble, but persistent effusions will often cause the loss of the air space by adhesive pleuritis. There is also the danger of persistent fluid becoming infected by tubercle bacillus, causing a tuberculous empyema.

4. The final complication mentioned by the author is the *lung which will not reëxpand*. Possible causes are bronchopleural fistula, caused originally by puncture of the lung; tracheobronchial tuberculosis with stenosis of the bronchus; pleural fluid allowed to remain in the pleural cavity until it becomes thick and tough. When this complication does arise, some form of surgical operation is indicated.

In conclusion the author says that artificial pneumothorax is a valuable and safe adjunct to the treatment when used in proper cases and by an experienced operator; but patients must be carefully reviewed at intervals by one who is able to recognize the complications and give them the proper treatment. An operator giving this treatment should have at least a year's service in a tuberculosis institution giving pneumothorax. If he has had less than a year's experience in such an institution he should confine his work to refills only and should be careful about the periodic checkups of his patients.

CLINICAL CHEMISTRY and MICROSCOPY

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COMPARATIVE MERITS OF PERIPHERAL BLOOD SMEAR, EPHEDRINE PROVOCATIVE TEST, AND STERNAL PUNCTURE IN THE DIAGNOSIS OF MALARIA

The diagnosis of malaria depends upon the demonstration of the causative parasite in the blood stream. The ordinary peripheral blood smear may fail to reveal the parasite, while it may be shown by means of other diagnostic methods. Provocative tests and sternal punctures are safe procedures easily performed.¹

Cold baths, strychnine and berberine sulphate are provocatives; adrenaline in normal saline injected intravenously is said to be more effective. Other provocatives include calcium chloride, tuberculin, salvarsan, x-ray applied to the spleen and ice-packs to the abdomen. Sternal puncture, intro-

duced by Seyfarth in 1923, is valuable in cases of malaria as has been distinctly shown by many.

With the idea of determining the comparative usefulness of peripheral blood smear, ephedrine provocative test and sternal puncture a study was made on 100 cases of malaria (67 subtertian and 33 tertian) seen during the period between January, 1940, and December, 1941, inclusive. Besides the ordinary peripheral blood smear examination of every case ephedrine provocative test and sternal puncture were performed on 34 and 90 cases, respectively.

In almost every case a peripheral blood smear was made first, and then a sternal puncture, which in some cases is followed by a provocative test with subcutaneous injection of 0.03 gm. of ephedrine. The blood smears are made 15, 30 and 60 minutes after the injection.

Aspirated fluid obtained by sternal puncture in our cases has been always less than 0.2 c.c. As a few drops of aspirated fluid appear in the syringe, the puncture needle is withdrawn and the grayish red marrow fluid in the needle is sufficient for making more than 10 smears.

One week after the onset and thereafter, when the case is not treated or is incompletely treated, the percentage of positive result after ephedrine provocative test or sternal puncture steadily increases, this is especially true in cases of subtertian malaria in which there may be no malaria parasites found in the peripheral blood but many crescents can be detected in the bone marrow.

During the first one or two attacks it is easier to find the parasites in the peripheral blood before than after the ephedrine provocative test, or from blood obtained by sternal puncture. In a case of repeated attacks the reverse is true.

When the patient is having t. of 39-41° C. the chance of finding parasites in the peripheral blood will be just as much as, or even more than, that after ephedrine provocative test or sternal puncture.

As a rule the more chronic the disease is, the larger the spleen. When the spleen extends 1-3 cm. below the costal margin, the chance of positive finding after sternal puncture exceeds that of the other two. But if the spleen is enlarged to 4 cm. or more below the costal margin, the percentage of positive findings after ephedrine provocative test and after sternal puncture is about same, in both higher than that found in the peripheral blood.

In cases of chronic subtertian malaria no matter how much quinine has been taken, the crescents can be readily found in the bone marrow if the case has not been treated, or has been inadequately treated with plasmoquine.

Among 100 peripheral blood smears, 34 ephedrine provocative tests and 90 sternal punctures,

^{1.} N. G. Yu & Y. Y. Ying, Chunking, in Chinese Med. Jl.,

the percentage of positive findings is 54, 70.6 and 90, respectively.

The sternal-puncture and the ephedrine provocative test are very helpful in the diagnosis of malaria, especially in the chronic cases.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M.D., Editor, Charleston, S. C.

OFFICE TREATMENT OF VERTIGO

The most encouraging account of treatment of vertigo (of whatever cause) that has come to attention is that described in the following abstract.

Vertigo is the chief complaint of 1/10th of the patients being treated for chronic conditions in our offices. The triad of deafness, tinnitus and vertigo constitutes Meniere's disease. An empirical form of treatment is presented which will be successful in the *majority* of cases.

Intravenous Method.—The patient should be hospitalized, the stomach empty. One milligram of histamin base (2.75 mgm. of histamin diphosphate) dissolved in 250 c.c. of physiologic salt solution is administered, one drop per second. Some of the patients become nervous. An ampoule of epinephrin with a syringe is kept accessible. Record the blood-pressure before the administration and each 15 minutes. Many of the nauseated patients are capable of eating the next meal and it is preferred that they do so.

Subcutaneous Method.—The initial dose for desensitizing is 0.5 c.c. (0.1 mgm. of histamin base). The dose may be increased or maintained at this level and given two or three times a week for the prevention of future attacks. It is better to err by unnecessarily continuing the therapy than stopping short of relief. The patient should be instructed to return immediately if a relapse of the symptoms occur.

Inasmuch as the toxins derived from the liver, gallbladder and colon have an affinity for the ear mechanism, therapy should be administered to eliminate these toxins. A modification of Hammond's mixture is given once or twice daily and usually continued after the histamin therapy.

1. J. J. Shea, Memphis, in Trans. A. L. R. & O.

MANAGEMENT OF NASAL DEFORMITIES (M. I. Berson, New York, in Clin. Med., Oct.)

Many recent fractures of the nasal bones are undiagnosed and neglected because of a large amount of swelling and ecchymosis resulting from facial trauma.

In all suspected cases of nasal fracture, skiagrams should be made. Reduction of lateral fractures is made by manipulation with thumb pressure. If the nasal bones are depressed, they are elevated by the use of a blunt instrument in the nares; if the bones are impacted, by a special padded nasal forceps, with one blade in the nares and the other cgainst the skin. After the bones have been molded into position, stabilize by use of dental modelling compound, oftened and molded over the nose. A packing of sulfathia-zole impregnated gauze is inserted and the stent is held in place by adhesive strips applied horizontally and diagonally

The nasal fossa should be cleansed of all blood clots and loocse foreign bodies, and irrigated with warm boric acid cr hydrogen peroxide solution. In children and apprehensive adults, general anesthesia is preferable; for others, monocaine hydrochloride—1½ per cent solution with ephinephrin 1:100,000—injected extransasly around the fracture site. It is important that reduction be accomplished as soon as possible as the nasal bones exhibit bony union within a few days.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M. D., Editor, Greenville, S. C

CONFUSION BETWEEN GASTROINTESTI-AND HEART DISEASE

Once in a while some courageous doctor writes about his mistakes, and almost invariably such accounts include cases in which heart disease was diagnosed surgical abdominal disease, and vice versa.

By no means least in importance and attractiveness of the many important and attractive features of this excellent presentation is the author's statement that it is the duty of the medical man to save his patient unnecessary expense.

Gastrointestinal symptoms caused by heart disease may mislead to unnecessary x-ray studies on a patient who can ill afford to go through such procedures because of his cardiac or because of his low financial status. More important, the recognition of the heart condition as the principal cause may save patients from unnecessary and dangerous surgical procedures.

On the other hand, one must be ever on the alert to recognize gastrointestinal lesions which cause symptoms suggestive of heart disease. To label a patient as having a cardiac disease is inexcusable, well says Hurxthal, without substantial evidence in both the history and the physical findings.

The article cited abounds in warnings. It reminds that the pain of angina pectoris or of coronary thrombosis radiates to the jaw and teeth or into the throat by no means rarely; into the region below the xiphoid sometimes in patients with a pendulous abdomen. And the pain of coronary thrombosis is frequently accompanied by gas and nausea and vomiting. Nausea and vomiting in an elderly patient may be the only sign of coronary thrombosis.

^{1.} L. M. Hurxthal, Boston, in New Eng. H. of Med., July 22nd.

The worst possible combination for the anginal patient is cold weather, difficult footing, a full stomach and an upset mind. Relief of pain by belching is commonly observed but not easily explained.

Electrocardigrams are of value, with a careful appraisal of the history. Even then a decision may be impossible and surgery may be undertaken only to reveal a normal abdomen.

Acute cardiac decompensation with sudden distention of the liver may lead one to suspect an acute upper abdominal emergency. Tenderness on palpation of the midepigastrium with resistance there and dullness over Traube's semiluar space should always make one suspect enlargement of the liver.

Embolism-pulmonary, renal, splenic, mesenteric or even cerebral-is one of the most frequently undiagnosed causes of acute gastrointestinal symptoms. Perhaps the chief cause of embolism is rheumatic mitral stenosis. The mural thrombus of coronary infarction producing embolism may further complicate the gastrointestinal picture. The pain may simulate gallbladder or renal colic, or appendicitis. Sudden onset of severe pain in a known cardiac patient should make one suspect an occurrence of cardiac origin. A patient with mitral stenosis and auricular fibrillation should be warned that, if any such sudden attack occur, he should immediately consult a physician and suggest the possible cause. Thus he may escape serious and unnecessary operations.

Cancer, particularly of the proximal colon, is often the unsuspected cause of the anemia accountable for the cardiac symptoms. Acute dilatation of the stomach after surgical operations should lead one to suspect a pulmonary or cardiac complication. The reverse may also be true; that is, cardiac failure may cause dilatation of the stomach. No precipitating cause of paroxysmal tachy cardia has been discovered.

The main conclusions as to drugs in this connection are that of gastrointestinal symptoms due to treatment the most important are those following the use of digitalis; that many patients show intolerance to theobromine and ammonium chloride, or to mercurials: that theophylline sodium salicylate is not apt to produce gastric irritation.

NO VACCINE AGAINST THE COMMON COLD RELIABLE

(C. L. Farrell et al., in R. I. Med. Jl., Oct.)

The common cold is caused by a filtrable virus; it is highly contagious and the incubation period is short—24-36 hours; the infection is transmitted during the first day or two after the onset. Resistance seems to increase with age.

This suggests that the introduction of a virus from outside is more important than climatic changes. Exposure to cold may in some way activate the virus.

Methods of preventing colds have been directed along many lines. No method is effective. Vaccines, by mouth or by injection, have been a great disappointment. There is no conclusive evidence that vaccines prevent or even shorten the course of a cold, or prevent the development of secondary infections. It is also true that vitamins fail to prevent colds. To date all other measures have failed to influence the frequency of colds and we are forced to the unhappy conclusion that we know of no way of preventing the common cold.

When scientific Medicine has found a cure that will do the work demanded of it, it will be announced through the usual channels.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., Editor, Greenville, N. C.

TRENDS IN PUBLIC HEALTH

Presidential Address before North Carolina Public Health, Association, Raleigh, October 25th.

Public health, as we understand it today, is a complex medical and sociological problem. But we do know that its trends will be governed by four items: scientific medical discoveries, the attitude of organized medicine, the state of our social consciousness, and, alas!, by current political manipulation.

If we are to forecast the trends in public health in such manner as to enable you to get a true perspective, we must glance backward. You will recall that Patrick Henry once said, "I know no way to judge the future but by the past."

Now what is the past of public health? From the National standpoint, here are a few important milestones in its development.

It was in 1648, or 28 years after the landing of the Pilgrims, that Maritime quarantine was established for Massachusetts Bay Colony; in 1780 Petersburg, Va., established the first City Board of Health: in 1869 Massachusetts the first State Health Association was founded; in 1883 the U. S. Public Health Service was organized; in 1890 we had our first pasteurized milk; in 1900 Walter Reed and his co-workers proved that a certain type of mosquito is the carrier of yellow fever; and in 1900 the U. S. Army gave us our first large-scale anti-typhoid inoculations.

Now for a few N. C. milestones:

In 1877 was organized our first Board of Health. Since 1886, when the first issue was published, the *State Health Bulletin* has been one of the greatest factors in the advancement of public health in this state.

Other important steps: 1905, State Laboratory of Hygiene established; 1907, State Tuberculosis Sanatorium founded; 1918, Free Dental Clinics in public schools; 1918-1919, Legislature passed "An

Act to Prevent Venereal Disease," and "An Act to Prevent the Spread of Disease from Insanitary Privies" (the real beginning of community sanitation in this state and a major factor in the control of typhoid fever and hookworm disease); 1920, Division of Mental Hygiene on part-time basis; 1922, Bureau of Maternity and Infant Welfare organized; 1936, Service for Crippled Children placed under the State Board of Health; 1936, The School of Public Health Administration as a part of the School of Medicine of the University of N. C. was established (an epoch-making event for public health, not only in the South, but for the Nation); 1937, limited voluntary system of birth control work based on medical needs; 1938, with \$100,000 from the Zacharv Smith Reynolds Foundation and \$80,000 from the Federal Government, the State Board of Health began a relentless attack on syphilis: 1938, school-health coördinating service inaugurated; 1942, inauguration of a Statewide nutrition program as a part of the National program.

Since we believe with Disraeli, the great British statesman, that upon public health rests the happiness of the people and the power of the Nation, we foresee an enormous expansion in public health

activities.

The rejection on account of physical defects of so many of our draftees has done more than any other one thing to shock us out of our complacency as to the health status of the people. More than ever in the history of the world do we now feel the necessity for a citizenship strong in body and in mind. If for no other reason, we must be concerned with these things as a means to National security.

Quoting an authority in public health: "The trend of public health is more and more towards curative medicine, especially in those diseases where cure and prevention are synonymous, for example, tuberculosis, syphilis, and malaria. The principle has been extended to other diseases largely because people cannot afford the best to which they are entitled, as in cancer, psychoses, the aftermath of infantile paralysis, etc."

Another authority had this to say: "It would appear that health departments will do more treatment of disease than they are now doing, at least for a time. I recognize this tendency without approving it. Federal legislation is placing more and more responsibility for treatment upon health departments. Obviously, as provided in the platform of the American Medical Association, care must be given at community expense of those who cannot provide care for themselves. It does not follow, however, that this must be administered by health departments. The public health program, which will inevitably be overshadowed by

the responsibilities of caring for the sick, cannot fail to suffer if health departments are given this auded responsibility. Just as the practicing physician, confronted with a choice between care of the acutely ill and attention to preventive medicine, must inevitably choose to serve the emergency situation first, so will the health department. I say this as a former health officer."

With reference to immunization in the future, this opinion is expressed: "Immunization will center more around health departments than around family physicians unless physicians make a more concerted and determined effort to immunize the children in the families whom they serve." A just

criticism in our opinion.

If we are to have more curative medicine from the health departments, each health department must have a division of preventive medicine and a division of curative medicine; and while there can be no limit to the expansion of the division of preventive medicine, there must, of necessity, be a sharp economic line drawn for the division of curative medicine; otherwise, we destroy organized medicine, the greatest force in this country in maintaining medical research, in maintaining a high standard of curative medicine and in promoting a sound expansion of public health work. It would be as foolish as it would be unjust for those of us in public health work not to recognize and proclaim this truth.

Another trend is towards shorter quarantine regulations, bringing these regulations more in keeping with present-day knowledge. This would greatly reduce the number of repeaters in our schools and in this way save much tax money.

Still another trend is better health teaching in our Teacher Training Colleges, and as a consequence, better health teaching in our elementary schools. This service, recently inaugurated, will in years to come be looked upon as an epoch-making event in public health in this State.

With the great emphasis now being placed on nutrition in the schools, we look for classes for malnourished children, supervised by the health department, to be a part of every school health program. We also look for great expansion in school dental work. More mental hygiene, or child guidance clinics, are inevitable, for we must find our potential psychiatric cases early if we are to prevent the ever-increasing stream of mental disorders now filling our mental hospitals. Cancer clinics must be made available to all people and it is probable that clinics dealing with rheumatic fever and its tragic crippling of hearts in childhood are just around the corner—these clinics to be conducted by private practitioners.

Sanitation is so much a part of preventive medicine as to make its expansion inevitable. Environmental sanitation, like immunization, is one of the great pillars of our public health structure.

In the light of research now going on, an effective vaccine against influenza seems a possibility, although efforts along this line have proved futile to date. In addition to its many other uses, the new drug penicillin gives promise of doing away with epidemic meningococcic meningitis.

Birth control programs have lost much of their popularity—probably a war casualty. Eventually these programs will expand, for within certain limitations, the idea is fundamentally sound. Trends in the treatment of syphilis and gonorrhea are most encouraging. In addition, it would seem that we will soon have an effective drug, orally administered, in the prevention of gonorrhea.

Higher professional qualifications are being required for all public health workers. This is of the greatest importance to the future of public health.

We are confident that geriatrics, the care of the health of old people, will become an important part of the educational program of every health department. There are many common diseases of the aged which can be influenced more by good hygiene than by any drug therapy. As an example, we cite simple rest in heart disease.

In closing I take pride in telling you that the expansion of public health work in North Carolina under the present health administration has been nothing short of phenomenal; that, irrespective of what the trend may be for the nation as a whole, in the state "where the weak grow strong and the strong grow great," all the evidence points to a continued expansion of every legitimate public health activity to the end that every citizen in this great commonwealth shall feel its beneficial influence.

Public health work is bound to expand; but it should be by evolution, not by revolution.

A. M. A. URGED GROWING CINCHONA TREES IN THE U. S. 75 YEARS AGO

(E. H. Ackerknecht, Baltimore, in Jour. A. M. A., Oct. 9th)

In 1738, a hundred years after the introduction of the Peruvian bark into our pharmacopeia, La Condamine foresaw the exhaustion of the South American supply as a consequence of the destructive methods of production. The Dutch (1854) and the English (1860) started cultivating the cinchona tree in their own colonies, the former in Java, the latter in southern India.

The Tranactions of the 15th annual session of the A. M. A. (1864) in the city of New York, contain a memorandum of Dr. D. J. Macgowan (apparently an army surgeon) of Washington, on the "Naturalization of Cinchona on the Eastern Continent," which dealt with the Dutch and English experiments and recommended that they be tried in Haiti. On motion of Dr. J. H. Griscom, the famous New York sanitarian, a committee was appointed composed of three of its most distinguished members . . . to confer with the Haitian minister on the subject.

Three years later the Medical Society of Wayne County, Michigan, submitted to the A. M. A. a paper of its member, Dr. J. M. Bigelow, which examined the whole cinchona situation in more detail and boldly asked the introduction and cultivation of the cinchona trees in western Fexas, Arizona or Lower California.

A committee was appointed to memorialize Congress and the next year, 1868, a report of the committee was read in the Association's Section on Chemistry and Materia Medica. A new committee was appointed and for seven years this committee, under the leadership of Dr. L. J. Deal, of Pennsylvania, carried on a vigorous, intelligent fight for the cultivation of the cinchona tree in the United States.

At the annuals session in 1870, Dr. Deal submitted a report of the committee which stated that from 1859 to 1865, \$2,287,250 worth of bark and quinine salts were imported into the United States, described the danger arising from the exhaustion of the Peruvian supply and recommended cultivation in California.

In 1872 Dr. Deal reported a gratifying progress. A second memorial to Congress was submitted. The Transactions of 1874 reported the committee had obtained the support of the Botanical Gardens in Washington, of the Department of Agriculture and of the Horticultural Society. President Grant, in his mesage relating to the purchase of San Domingo, had advanced the argument that the climate and the soil of this island were suitable for the cultivation of cinchona. The committee was continued.

But, alas, at the 26th annual session in 1875, after a "report of progress," the committee was discontinued. We do not know the exact reasons and motivations for this step.

A PLANNED DIETARY IN THE TREATMENT OF ADDISON'S DISEASE WITH DESOXYCORTI-COSTERONE ACETATE

(T. H. McGavack & Louise Babcock, New York, in Amer. Jl Dig. Dis., Oct.)

All cooking should be done without added salt except as otherwise indicated. Excess water should not be used in cooking, and if possible, none of the "liquor" of cooked foods should be thrown away. It is best to use a pressure cooker.

Added salt allowed is measured into a shaker in the morning and placed at the patient's plate for use as he sees fit. Or, if his food is cooked separately, a part of the measured salt may be used in the normal manner of seasoning just before cooking is completed.

The diets have been based upon a rather high caloric equivalent because of the poor nutritional state generally seen in patients suffering from Addison's disease.

The higher the sodium content, the lower the amount of desoxycorticosterone acetate which can be safely used and the less expensive the regimen. On the other hand, dosages of desoxycorticosterone acetate corresponding to an intake of 3 gms. of sodium daily (i.e., about 15 mgms.) seem to be liked by the patient better than those containing more sodium and less hormone. Almost invariably the patient feels more fit under such conditions.

However, we have maintained patients at full-time work satisfactorily for more than a year on 7.5 gm. salt and 6 mgms. of desoxycorticosterone acetate daily, and for periods up to six months on 9.0 gm. salt and 5 mgms. of desoxycorticosterone acetate daily.

If the sodium in the diet of patients with Addison's disease is carefully regulated, maximum therapeutic doses of desoxycorticosterone acetate may be given without fear of complication. The satisfactory clinical condition of the individual thus treated allows him to pursue his customary activities and occupation without fear of intermittent period of incapacity.

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As is true of most Medical Journals, all costs of cuts, ecc., for illustrating an article must be borne by the author.

FOR IMPROVING, AGAINST DEGRADING MEDICAL CARE

DR. SAMUEL S. PURPLE, asked, on taking the chair as President (1877) of the N. Y. Academy of Medicine:

". . . . Does the medical world belong only to the generation which inhabits it? Is it not rather an entailed estate, the income of which the present posessors have the right to enjoy, but not the right to squander or scatter? Are they not in honor bound to preserve the estate intact, and institute and develop such permanent improvements as will tend to meet the wants of the generations which will follow?"

The implications inherent in these questions remarkably and impellingly command doctors of medicine what they should do as to the Wagner-Murray-Dingell Bill. And, be it noted, these implications are even stronger in the interest of the public than in the interest of the profession.

Many bodies of medical men have been at work for years on plans to make even more generally available to all of our people, the benefits of all the recent discoveries in diagnosis and treatment. many of them heavily expensive, without working hardship on any of those accustomed to pay their

From the days of the Committee on the Costs of Medical Care all along to now. I have proclaimed as my chief reasons for disbelief that any radical change in the method of providing medical care would be made by the Congress, these facts: The Congress is made up of lawyers mostly; lawyers know that once the people generally get their medical services paid for by taxation, they will demand legal services paid for by taxation; lawyers generally, even while in Congress, commonly practice law, in person or by proxy, and none of them knows when his constituents are going to make the practice of law his sole means of support.

It is with no small satisfaction that I read in the Illinois Medical Journal's issue for October:

WAGNER-MURRAY BILL OPPOSED BY AMERICAN BAR ASSOCIATION

At the annual meeting of the American Bar Association held in Chicago, August 23d-26th, both the assembly, which, in effect, is the convocation of the membership at large, and the house of delegates of the association opposed the enactment of Senate bill 1161 on the grounds that such an eventuality would "establish federal control of the medical profession and the regimentation of doctors and hospitals." Further, the house of delegates put itself on record as being "opposed to any legislation, decree or mandate that subjects the practice of medicine to federal control and regulation beyond that presently imposed under the American system of free enterprise."

The house of delegates then requested the association's board of governors immediately "to appoint a special committee to study, analyze and investigate S. 1161 and to give publicity to the recommendations and findings of the special committee and the action of the board of governors thereon."

Outlines of what has been done toward providing prepayment medical services by the doctors of three States are given:

A committee appointed by the Tennessee State Medical Association in this year approved in principle both prepayment hospitalization and prepayment medical services in certain cases. It was the unanimous opinion of the committee that such approval is economically sound for enabling individuals and families of the lower-income groups to meet the expenses incident to illness. The committee regards the establishment of plans covering these two services on a voluntary nonprofit basis as the best means of safeguarding the public and the profession from the establishment of political control of hospitals and medical practice.

It gave its approval to the Blue Cross Plan for Prepayment Hospitalization which is now in operation in many states and which seems to meet all of the criteria necessary to the successful operation of such a plan because 1) participation in it is voluntary, 2) it is entirely nonprofit, and 3) it has behind it a national organization in the person of the American Hospital Association.

Medical service features embraced in some prepayment hospital plans are condemned.

The committee found that the experience in practically all states where prepayment plans for medical services are now in operation has shown the necessity of joint activity between hospitalization and medical service plans, but that these two services should always remain entirely distinct in their administrative, executive, and financial control and operation.

It was the opinion of legal counsel present at the committee meeting that the Tennessee Welfare Act is so broad in its scope that a charter could be taken out under its provisions legally authorizing the establishment and operation of such a plan.

The committee recommended: That the corporation organized should be without capital stock, not for profit, its major purpose the furnishing of adequate medical service to citizens in the low-income groups at a cost which they could well afford by voluntary allocation of a small percentage of their income, on a state-wide basis and placed under the control of a central committee, about two-thirds of whom should be licensed physicians in Tennessee, the remainder laymen, both groups to be se-

lected by the Board of Trustees of the Tennessee State Medical Association.

That there be offered either a limited or unlimited contract to be altered from time to time as might be deemed wise.

That any licensed physician in good standing in Tennessee would be eligible to practice under this plan.

That freedom of choice of physician should be guaranteed to each subscriber from the number of physicians who agree.

That provision should be made so that the Executive Committee of the plan may receive donations from governmental, or private agencies, corporations, associations, groups, or individuals covering all or part of the cost of the contract entered into between the corporation and its voluntary subscribers.

That payment to the participating doctors be made on the unit plan. As regards the limitation of the income group: For a single person, \$1,500; for a person with one dependent, \$2,000 to \$2,400; for a person with more than one dependent, from \$2,400 to \$2,800.

The West Virginia State Medical Association unanimously voted on September 30th:

Realizing that the cost of medical care has advanced during the past few years, so that for the average wage earner a serious illness becomes a financial catastrophe, and that this is due to increased cost of hospitalization and necessary diagnostic procedure, and further realizing that the cost can be met only by a distribution of prepaid medical service (it is recommended):

- 1. That regional, non-profit medical-service plans be developed immediately as community projects with the endorsement and support of component medical societies; that the plans be operated by group hospital service with the joint supervision of an advisory committee elected by the county medical society and a central state committee appointed by the president of the State Medical Asociation; that a medical service contract be offered to the public on a periodic prepayment plan to pay the cost, in whole or in part, of surgical, obstetrical and medical service, while a bona fide patient in a hospital; that the details of these plans and contracts be left to each community; that nothing be done that might in the least interfere with doctor-patient relationship; and, that the patient have the free choice of hospital and doctor.
- 2. That inasmuch as the care of the indigent sick is a joint responsibility of the community and the medical profession, further study should be made in each community toward improving such care if necessary. The committee recommends that each county society, through a committee, be asked

to survey its plan for the care of the indigent sick, and to send a report with their recommendations to the Fact Finding and Planning Committee, so that the committee will be in a better position to offer proper recommendations with reference to the improvement of this service.....

3. Realizing that the health of the community depends largely on adequate public health departments, that the public health work be extended and that measures be taken to assure adequate public health units for every county or group of counties. As far as possible the work of these units should be limited to preventive medicine, immunization, and particularly to education of the public in health matters.

The Legislature is commended for passing legislation on cancer control, and placing institutions for the treatment of tuberculosis in the hands of medical administrators.

The project of the Woman's Auxiliary for a proposed educational campaign is endorsed; however, the campaign must be planned carefully and the medical advisory committee should work closely with the Auxiliary in preparing the material for this work.

The Council of the Medical and Chirurgical Faculty of Maryland has this to say:

There have been two substantial criticisms made against the system of medical care to the people of the United States. One of these is that certain economic groups have lacked proper health services. The other is that certain geographical areas have lacked sufficient physicians.

The splendid record of medical care in the United States is attested to, not only by the comparison of mortality and morbidity statistics in the United States as against any other nation of comparable size, but by the excellence of medical education, of hospital care, of scientific advancement, and of general standards of medical service in this country.

This bill would subject almost the whole medical service of the country—physicians, hospitals, clinics and medical schools—to the domination of the Federal Government, and specifically to the almost unrestricted control of a single individual who happened to occupy the position of Surgeon General of the Public Health Service. Assuming that the occupant of this position were of exceptional character and ability, it is dangerous to put such power in the hands of one man and it is contrary to the sound tradition of this country that the Federal Government should arrogate to itself such power.

There is nothing the plan that undertakes to improve the problem of distribution of medical care in scarcity areas, which is one of the real difficulties of the present system.

This bill represents a long step toward the kind

of government that exists in totalitarian states, against which we are fighting now to defend the right and the duty of the citizen to fend for himself.

The Editor of the Department of Public Health of this journal, in this issue makes some observations, pertinent to this subject, which are deserving of comment.

He reminds of the trend toward increase in the practice of curative medicine by doctors employed by Boards of Public Health, "at least for a time." It may be accepted as fact that, once established, this practice will be for all time; that is, unless by enactment of the Wagner-Murray-Dingell bill, or some such legislative atrocity, the whole of the practice of medicine be taken over by the Government at Washington. History affords few instances of the detachment of greedy mouths from teats kept filled by taxation for "deserving" politicians.

Data on rates of rejection, causes of rejection and the incidence of physical and mental defects among the 18- and 19-year-old registrants are being presented¹ "in response to numerous requests for information on the physical status of this age

Several factors are to be taken into consideration. "Large numbers of physically fit 18- and 19vear-old youths entered the armed forces by direct enlistment before induction by enlistment was discontinued. The Selective Service System was notified when registrants enlisted in the armed forces but was not advised of the physical findings of either accepted or rejected volunteers. During the period represented by these data many youths remained in school or college under programs supported by the Army and the Navy which permitted them to finish a course of study before being called up for examination. Young men who had entered war industries or who were needed on farms and had been deferred because of occupation were not examined physically. The remaining 18and 19-year-olds were called up for physical examination unless grounds for deferment existed, and it is this group whose records are available for study."

"The rejection rates for 18- and 19-year-old registrants," the report says, "are only slightly lower than the rejection rates for older registrants."

"The most striking difference between the two racial groups concerns the high rate of rejections among Negroes for educational deficiency and for syphilis. The two conditions together accounted for slightly more than half of all rejections of Negro youths. Eye defects and mental disease were the leading causes of rejection among white youths."

'The 10 leading causes of rejection among the

^{1.} Rountree or or, in A. A. If A. Sept. 25th.

whites were, in decreasing order of occurrence, eye defects, mental disease, musculoskeletal defects, cardiovascular defects, ear defects, hernia, neurologic defects, educational deficiency, underweight and mental deficiency. For Negroes the 10 leading causes of rejection were educational deficiency, syphilis, cardiovascular defects, mental disease, muscoskeletal defects and tuberculosis."

An instructive tabulation is made:

Number of Registrants Rejected per 1,000 Examined

2,000 2300	White	Negro
Total, all causes	237.8	455.0
Eves	47.1	17.2
Ears	16.0	1.8
Teeth	0.8	0.9
Mouth and gums	0.6	0.9
Nose	2.8	0.9
Throat	0.3	0.6
Lungs	6.0	6.3
Tuberculosis	6.6	9.7
Cardiovascular	19.8	41.7
Blood and blood forming organs	0.2	41./
	15.9	22.3
Hernia and relaxed rings	4.4	1.8
Kidneys and urinary system	1.3	1.5
Abdominal viscera		
Genitalia	3.8	9.1
Syphilis	2.2	112.0
Gonorrhea and other venereal		
diseases	0.2	8.8
Skin diseases and conditions	2.3	5.1
Hemorrhoids and other rectal de-		
fects	0.3	
Varicose veins	0.7	0.9
Endocrine disturbances	4.1	0.6
Mental deficiency	6.8	10.0
Mental diseases	27.2	32.0
Neurologic	15.0	12.1
Musculoskeletal	22.6	24.2
Feet	4.9	3.6
Endocrine disturbances	4.1	0.5
Neoplasms	1.5	1.8
Infectious and parasitic diseases	0.3	1.2
Other diseases and defects	11.2	6.6
Overweight	0.9	0.3
Underweight	7.5	2.4
Overheight	0.1	0.8
Underheight	0.8	1.2
Nonmedical reasons	1.4	

The pother about the number of rejections of men called up for armed service is based on a number of fallacies. The first of these is that perfection is attainable, the second that any considerable number of these rejections, with the exception of those based on syphilis and gonorrhea, were due to lack of medical care. And everybody knows: (1) that no doctor can compel such patients to take treatment until they are cured; (2) that one cured of gonorrhea can and often does contract it again next week.

Is the present system of rendering medical care responsible for the developmental defects—including hernias and mental retardations, which cause so many to be rejected? Is it due to its failures or fault that so many have too little education to be

acceptable to the armed services?

Doctors generally are justly chargeable with failure to do their full duty in the matter of immunizing their patients. Even here, though, one must realize that not all persons accept proffered immunization for self or children.

In a way it is a vast compliment to doctors to assume that we should have been able to keep the hand of the Potter from shaking. But it is all very silly.

SOME COMMON ERRORS OF DIAGNOSIS

In Many cases, says one of the greatest internists of our time, the diagnosis made by the home doctor is not so much wrong as it is inadequate, and a far more important disease is overlooked. And he goes into particulars in a tremendously helpful way:

Often the diagnosis made of spastic colon, ptosis, diverticulosis, a low blood sugar, adhesions, gastritis, a low blood pressure or a low basal metabolic rate was correct as far as it went, but these conditions had nothing to do with producing the symptoms complained of. In some cases the finding of gallstones, amebiasis or a myomatous uterus was unimportant, and the physician was wrong in thinking them responsible for the patient's distress; that being due to migraine, a psychoneurosis, a nervous breakdown or something else.

One of the worst sins that must be chalked up against those of us who teach medicine is a failure to drill into our students the fact that a person suffering with diarrhea, and amoebae in his stools, the symptoms all may be due to nervousness, a toxic goiter or chronic ulcerative colitis. The amoebae produce no symptoms in most persons who carry them. One of the surest signs that a clinician has attained unto wisdom is his ability and willingness to state that in the case of a fussy woman with gallstones, the symptoms are due, not to cholecystitis, but to a neurosis, and that the removal of the gallbladder will probably be without effect on the health or comfort of the patient.

A neurotic woman complained much of nausea, epigastric burning, distress in the lower part of the abdomen, the passage of mucus from the bowel, frequent sick headaches, constant fatigue and occasional epigastric distress relieved by eating. As I rather expected, the röntgenologists reported signs of a duodenal ulcer, but I could not promise any relief from a Sippy treatment because she did not have good relief from eating, or taking alkalis, and I was sure that most of her symptoms were due to nervousness and worry over a defective child. Actually, treatment for the ulcer had probably caused the ulcer to heal, the woman went

^{1.} W. C. Alvarez, Rochester, Minn., in Clin. Med., July.

on having nausea, burning, headaches, and a sore colon.

One of the most fertile sources of mistakes in diagnosis is the expectation on the part of many physicians that the diagnosis will be made for us by some laboratory technician or röntgenologist. This expectation puts such pressure on the consulting röntgenologist that he does not dare report as he often should, "Negative stomach and duodenum, normally functioning gallbladder, and normal colon and terminal ileum." He writes about little peculiarities which may be pointed out to the patient as sufficient to explain all the symptoms. Many a poor woman with a nervous breakdown due to a defective heredity, over-work or sorrow gets a ptosis belt or has her gallbladder or her appendix removed.

That a gallbladder empties slowly is to be expected, because when the dye goes out into the bowel with the bile some of it is absorbed again and goes back through the liver into the gallbladder. The only good reasons for removing a gallbladder are that the patient has had typical colics with perhaps frequent attacks of flatulence, and that the gallbladder fails to fill well with the dye or is seen to contain stones.

Poor diagnoses are made when we accept one laboratory report which appears to be abnormal, or worse yet is well within the borderlines of normal. Keen, wide-awake women have been under treatment for myxedema because one basal metabolic rate was reported as -35 per cent. When the physician noted that the patient was so active, quick and hard-working, with warm hands and a fast pulse, he should have said to himself, "She can't have myxedema; either something went wrong with the apparatus or else the laboratory girl must have calculated wrongly." He should immediately have ordered two more tests as a check on the first. When the giving of thyroid substance only made the woman more nervous diagnosis must have been wrong. Most frail women have a basal metabolic rate around minus 15 per cent-normal for them.

Systolic pressures of 100 and 110 indicate congratulations on a better-than-average prospect of long life.

Many persons are treated for "hyperinsulinism" because one blood sugar came out perhaps 78 mg. Symptoms of true hyperinsulinism do not develop until the blood sugar falls below 50 mg. Fortunately, the diagnosis of hyperinsulinism is going out of fashion.

The nervous woman's afternoon temperature is a little higher than average. Most people who have drunk much milk have a few agglutinins for Brucella abortus. It seems highly probable that most of the diagnoses of chronic brucellosis are wrong,

and that all that these patients really have is a fatigue state.

Perhaps the worst tendency is to diagnose myocardial disease from an electrocardiogram, forgetting that hardly anyone past 30 is without some slurrings and notchings. Always it should be remembered that the best test of a heart usually is the amount of exercise it can stand without complaint. If a man can walk rapidly along the street without getting pain that stops him he probably has a good heart.

Instead of telling a woman who has been ailing one way or another throughout her life that she was born that way and will always be that way, we usually try to get her out of the office in a contented frame of mind by telling her that she has colitis, ptosis, adhesions, an endocrine disturbance, mild Addison's disease, sinusitis, too much acid in her system, brucellosis, chronic appendicitis, an ovarian cyst, a small uterine myoma, retroversion of the uterus, a peptic ulcer, a slow-emptying gallbladder, a ureteral stricture or intestinal auto-intoxication. Often these diagnoses send the patient on wild-goose chases after health, they lead to the undertaking of long and expensive treatments, they cause surgeons to perform futile operations.

Tell a tense, fretty woman with constipation and a hypersensitive bowel that she has a normal colon which is being disturbed by nervous stimuli. Where I work we never think of mentiong that the colon is ptosed or kinked, because we feel so sure that such peculiarities are without significance: that her bowel is spastic, because spasticity is normal and to be expected in a woman of her tense type. We would rather not concentrate her attention on her colon and on taking belladonna to relax it. We would rather have her concentrate on trying to get some rest and to live more sensibly. It is not a good thing to tell a neurotic woman whose symptoms are due to her constitutional inadequacy and her phychopathic or her unhappy home situation. that her troubles are due to questionable abnormalities in heart, stomach, colon or uterus,

Ptosis can be found in 60 or 75 per cent of well-built athletes. I cannot see how it can make any difference whether the transverse colon is above or below the navel.

One of the most fruitful causes for poor diagnoses is the failure of physicians to remember that psychoneurosis is one of the most common diseases in the United States, and that the most common symptoms of psychoneurosis are abdominal pain, indigestion, and a sense of overpowering fatigue in the mornings. We may see that the patient is not exactly right above her ears but we keep looking for something more.

In this country one out of every 19 children

born is some day going to be committed to a state institution for the insane, the feeble-minded or the epileptic! Many more will be cared for in our jails, at home, or go on relief, and many will be ne'er-do-wells, alcoholics and hoboes. For each one of these there will be several queer, constitutionally inadequate and psychoneurotic relatives, and these will be the people who will cause us physicians most of our trouble. Our doctors seldom think of disease primary in the brain; they do not try to diagnose neurosis from the history alone; and in every case they try desperately to make a diagnosis of organic disease somewhere below the neck.

This first-rate doctor concludes with this sentence of encouragement and comfort for home doctors: "The abler the diagnostician, the more frequently does he admit to patients that he cannot find any serious organic disease to explain his symptoms."

THE VALUE OF THE COUCH SIGN IN ACUTE APPENDICITIS
(S. Ben-Asher, Jersey City, in Amer. Jl. Dig. Dis., Oct.)

For many years, I have utilized the cough sign in the examination of acute abdominal cases, and have found it almost pathognomonic of acute appendicitis. The examiner places the tips of his fingers under the left costal margin in the region of the spleen. Patient asked to take a deep breath, exhale completely, and then cough. When positive, the patient will point to the area of the appendix as the site of severe pain.

In acute appendicitis pain precedes nausea and vomiting, fever and abdominal tenderness. If vomiting precedes pain, the condition probably is not appendicitis. In this study vomiting occurred more often in non-appendiceal diseases than in acute appendicitis. The incidence of rebound tenderness was high in all three groups, and occurred somewhat more often in acute appendicitis. Spasm occurred slightly more often in acute appendicitis than in the other two groups. The cough sign was found almost pathognomonic of acute appendicitis, occurring three times as often as in non-appendiceal diseases.

ONE CANNOT BUT BE OPTIMISTIC about the many possibilities for this branch of medicine (Radiography) in the near future. It is possible that there may be developed a chemical substance which would be electively secreted with the pancreatic juice, and shed light upon the function of that organ and add to the now meager knowledge of diabetes.

Science has made a great step forward in the development of the electron microscope, and it is not outside of the realm of investigation in light amplification that some one may perfect a fluoroscopic screen that will enable the radiologist to see objects of fine structure which he cannot now distinguish.—S. W. Donaldson, in An. Int. Med., Apr.

SORSBY says that the growth of the eye is completed at eight years, and that during this process of growth the organ increases in length by 8 mm. In many cases of progressive myopia pathologic elongation of the eye continues after this age. —Trans. Am. Oph. Soc.

NEWS

THE SEVENTH DISTRICT (N. C.) MEDICAL SOCIETY meeting, Tuesday Nov. 9th, American Legion Hut, Lincolnton. Meeting called to order at 4 p. m. by Dr. J. A. Elliott, Councilor. Charlotte.

The Work of the Women's Field Army of the American Society for the Control of Cancer—Mrs. George Marshall, Mount Airy, State Commander, Women's Field Army.

Transfusions in Infancy—Dr. J. H. Fitzgerald, Lincolnton.

The Present-Day Knowledge of Penicillin-Dr. Elias Faison, Charlotte.

Results Obtained by Present Methods of Treatment of War Injuries—Joseph C. Wood, 1st Lt., Med. Corps, AUS, Camp Sutton.

Banquet 7:30 P. M., North State Hotel
Invocation—Rev. Mr. A. B. McClure, Lincolnton.
Address of Welcome—Postmaster Victor Fair, Lincoln-

Response—Dr. J. Rush Shull, Charlotte.

Address

Dr. J. W. Vernon, Morganton, President Medical Society of the State of North Carolina.

Remarks

Dr. Roscoe McMillan, Red Springs, Secretary Medical Society of the State of North Carolina.

Address
Practical Points in Pediatric Practice—Dr. Samuel F. Ravenel, Greenshoro.

Officers

Officers

President, Dr. K. E. Neese, Monroe; Vice-President, Dr. A.
M. Cornwell, Lincolnton; Secretary, Dr. H. C. Thompson, Shelby; Councilor, Dr. J. A. Elliott, Charlotte.
Committee on Arrangements—Drs. A. M. Cornwell, W. G. Bandy and L. A. Crowell, Jr.

UNIVERSITY OF VIRGINIA

Dr. Carlton J. Casey, Instructor in the Department of Internal Medicine, spent six weeks of August and September at the United Fruit Company Hospital at Tela, Honduras, and with the Coördinator of Inter-American Affairs in Tegucigalpa, Honduras, and Guatemala City, for observation of Tropical Diseases and Sanitation Programs under the auspices of the Association of American Medical Colleges. Funds were supplied by the Markle Foundation.

Dr. Larry White addressed the Southwest Virginia Medical Society at Wytheville, September 16th, on The Bronchiectasis Problem. Dr. Oscar Swineford spoke on The Management of Pollen Hayfever.

Dr. Fletcher D. Woodward attended the meeting of the National Research Council at Washington, Tuesday, September 21st, as a member of the Sub-Committee on Otolaryngology of the Committee on Surgery. He also attended the meeting of the American Board of Otolaryngology at Chicago on October 7th-9th. Dr. Woodward attended the meeting of the American Academy of Ophthalmology and Otolaryngology at Chicago October 11-13th. He gave a clinical lecture on The Management of Recent Faciomaxillary and Mandibular Fractures.

Dr. Robert V. Funston gave a paper on Injuries to Bones and Joints in Civilian and War Practice at the fifteenth annual scientific assembly of the Medical Society of the District of Columbia on September 30th. He also attended a meeting of the regional committee for the investigation and evaluation of the Sister Kenny treatment of poliomyelitis on October 4th at Chicago, and a meeting of the joint council of Orthopedic Nursing Advisory Service at New York on October 9th.

Dr. W. Gayle Crutchfield attended the recent annual meeting of the American Academy of Neurological Sur-



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mormal intake.

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gery at the Percy Jones General Hospital, Battle Creek, Michigan. He spoke at the October meeting of the Wayne County Medical Society at Goldsboro, N. C., on Cranial and Craniocerebral Wounds.

Dr. H. B. Mulholland spoke on The Pneumonias at a meeting of the Third Summer Clinic, sponsored by the Staff of the Raiford Memorial Hospital at Franklin, Virginia, on September 22nd.

MEDICAL COLLEGE OF VIRGINIA

The terms of arrangement between West Virginia University and the college under which twenty students who have completed the sophomore year at Morgantown will enter our junior year have been signed by representatives of both institutions. The first group to be admitted under these terms will enter our medical school on December 30th.

Dr. A. W. Hurd, former dean of Hamline University, Saint Paul, Minnesota, has become a director of our Bureau of Educational Research under a grant from the General Education Board. His first work will be to direct an experimental study of the curriculum of the school of nursing, beginning with an analysis of the science subjects nurses use in practice. The objective is to develop a functional course in science subjects directly related to practice. Subsequently the whole curriculum will be similarly surveyed and its use evaluated experimentally in accordance with the newer ideas of experimental education.

Dr. Randolph H. Hoge, assistant professor of gynecology, has been elected to the professorship of gynecology by the Board of Visitors.

The college is cooperating with the War-Time Graduate

Medical Committee under the auspices of the American Coilege of Surgeons, the American College of Physicians, and the American Medical Association in sending members of its faculty to various nearby camps to speak on their specialties. Dr. E. I. Evans spoke at Camp Pickett on October 11th; Dr. C. C. Coleman at the same camp on October 13th; Dr. J. M. Meredith at Camp Eustis November 18th, and Dr. H. B. Haag at Langley Field on Novem-

Dr. H. Hudnall Ware, Jr., professor of obstetrics, was the guest speaker of the Kanawha Medical Society at Charleston, West Virginia, on October 12th. His subjects were: (1) Management of Breech Presentations, (2) Diagnosis and Treatment of Ectopic Pregnancy.

Dr. J. P. Gray, dean, and Dr. W. T. Sanger, president, attended a meeting of the Norfolk alumni on November

Dr. F. J. Wampler, professor of preventive medicine, and Dr. J. P. Gray, dean, attended the annual meeting of the American Public Health Association, October 11th-15th.

At the annual meeting of the American Hospital Association held at Buffalo, Dr. Lewis E. Jarrett, director of the hospital division, was elected a trustee for a three-year

Dr. C. C. Coleman, professor of neurosurgery, read a paper on Low Back Pain and Sciatica before the Forsyth Medical Society, Winston-Salem, North Carolina, on September 14th, and another on Surgical Treatment of Peripheral Injuries at the Annual Scientific Assembly of the District of Columbia Medical Society in Washington on September 30th.

Dr. W. T. Sanger, president, has been re-elected chairman of the State Nutrition Committee for another year.

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Camel Costlier Tobaccos

New reprint available on cigarette research—Archives of Otolaryngology, March, 1943, pp. 404-410. Copies on request. Camel Cigarettes, Medical Relations Division, 1 Pershing Square, New York 17, N. Y. PROFESSOR OF PEDIATRICS AT MICHIGAN BECOMES ASSISTANT TO PRESIDENT OF PARKE, DAVIS AND COMPANY

Dr. Charles F. McKhann, for several years a member of the Faculty of the University of Michigan, has resigned that position to accept that of Assistant to the President of Parke, Davis and Company. Dr. McKhann will devote his time entirely to the scientific activities of the company. Fie will assume his new duties October 15th.

At the University, Dr. McKhann has held the positions of Professor of Pediatrics and Communicable Diseases in the Medical School, and Professor of Maternal and Child Heaith in the School of Public Health. He has also acted as Consultant to the Secretary of War in the Control of Epidemic Diseases.

The summer of 1941 Dr. McKhann acted as Consultant to the Board of Health, Territory of Hawaii. From 1936 to 1940 he was Associate Professor of Pediatrics and Communicable Diseases at Harvard Medical School and Harvard School of Public Health. Before that he spent a year as Visiting Professor of Pediatrics and Communicable Diseases at Peiping Union Medical College, Peiping, China.

Since 1930 he has conducted and directed research on communicable diseases, immunology, renal diseases, nutritional diseases, and on certain phases of toxicology. He developed and introduced immune globulin and has contributed to the development of several other products.

Dr. McKhann is a member of the Michigan State Medical Society, American Medical Association, American Society for Clinical Investigation (Vice-President, 1943), American College of Physicians, American Academy of Pediatrics, Society for Pediatric Research (President, 1936) and American Public Health Association.

PARKE-DAVIS LABORATORIES ANNOUNCE RAPID PRODUCTION OF PENICILLIN

A process of Penicillin production, resulting from two years' research in the Parke-Davis Laboratories, promises to substantially cut down the production time required, according to Homer C. Fritsch, general manager of the company.

"The present method of producing penicillin requires from $6\frac{1}{2}$ to 14 days," says the general manager. "We have advanced our methods to where we can produce in $2\frac{1}{2}$ to 3 days without using cumbersome equipment."

The drug has been so far available only in small amounts. Parke, Davis & Company is now regularly supplying Penicillin to the government and has recently greatly expanded its facilities for its production.

THE MEAD JOHNSON VITAMIN B-COMPLEX

Nominations are solicited for the 1944 award of \$1,000 established by Mead Johnson and Company to promote researches dealing with the B-complex vitamins. The re-



cipient of this award will be chosen by a committee of judges of the American Institute of Nutrition. The award will be made to the laboratory (nonclinical) or clinical telearch worker in the United States or Canada who, in the opinion of the judges, has published during the previous calendar year the most meritorious scientific report usualing with the B-complex vitamins. The prize may be that detailed between two or more persons, or it may be awarded to a worker for valuable contributions over a period of more than a given year. Membership in the American Institute of Nutrition is not a requisite of eligibility for the award.

To be considered by the committee of judges, nominations for this award for work published in 1943 must be received by the secretary, Arthur H. Smith, Ph.D., Wayne University College of Medicine, Detroit, by Jan. 10th, 1944. The nominations should be accompanied by such that relative to the nominee and his research as will facilitate the task of the committee of judges in its consideration of the nomination.

CONTINUOUS CAUDAL ANALGESIA IN OBSTETRICS

Eli Lilly and Company, Indianapolis, announces the release of a 16-mm, silent motion picture in color on the subject, "Continuous Caudal Analgesia in Obstetrics." The film is available to physicians for showing before medical societies and hospital staffs. It deals with the history, anatomy and physiology of caudal analgesia and demonstrates the technic of use in obstetrics.

The film was made at the U. S. Marine Hospital, Staten Island, New York, by authorization of the Surgeon General, U. S. Public Health Service, and the demonstrations were carried out by the originators of the technic, Dr. Robert A. Hingson and Dr Waldo B. Edwards.

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For patients who have had a colostomy or who suffer with flatulence. These capsules tend to eliminate the objectionable odor of gases in the intestinal tract and materially decrease the odor of the feces. One capsule is taken 15 minutes before breakfast and before the evening meal. The capsules, which are enteric coated, contain an especially activated form of pure carbon together with a small percentage of phenyl salicylate. Further information may be obtained from:

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*Minnesota Medicine, Aug., 1943, page 709. Southern Medicine & Surgery, Sept., 1943, Editorial.

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"Tuamine Sulfate" produces nontraumatic shrinkage of the nasal mucosa without undesirable systemic effects. The isotonic solutions are within the acid pH range and are well tolerated even by sensitive membranes without altering the flow of nasal secretions.

MARRIED

Dr. Ralph Bretney Miller, of Springfield, Ohio, and Miss Anne Hetherington Upton, of Marblehead, Massachusetts, were married at the home of the bride, Mathews, virginia. October 30th.

Dr. Frederick Potts Moore, II, of Yonkers, New York, and Miss Jane Appleton Gregory, of Albany, New York-were married on October 30th. Mr. Moore is serving an interneship in the Johnston-Willis Hospital, Richmond.

Miss Thurla R. Turner and Lt.-Com. Kilby P. Turrentine, Medical Corps, U. S. N., prominent young physician, formerly member of the staff of the Memorial General Hospital, Kinston, N. C., were married October 17th at Kinston.

Dr. Roshier W. Miller. Richmond, announces the marriage of his daughter, Mrs. Elizabeth Miller Williams, to Dr. W. Hughes Evans, September 29th. Dr. and Mrs. Evans are making their home at 5500 Todbury Road.

DIED

Dr. Wright Clarkson, radiologist widely distinguished for research in cancer, died in a Washington hospital of pneumonia October 16th. Burial was in old Blandford cemetery of Dr. Clarkson's home city of Petersburg, Virginia.

MYASTHENIA GRAVIS is the only disease of the many with muscular weakness in which the symptoms are aggravated by quinine, and improved by prostigmine. Two 10-gr doses of quinine sulphate, two hours apart, will produce an effect within two hours after the second dose. Within five to 20 minutes after a subcutaneous or intramuscular injection of 5 mg. of prostigmine methylsulfate, improvement can be noted.

INCREASE IN ACCIDENTS?—A number of newspapers have recently carried accounts of great increase in serious accidents, attributing the increase to "the war," indeed assuming the increase to be inevitable. The Bulletin of the Met. Life Ins. Co. says there has been a considerable decrease!

When sodium sulfathlazole cannot be given orally, a 0.5% solution of the drug by hypodermoclysis is recommended. No serious local reactions appeared in any of 200 patients who were given up to 2,000 c.c. of a 0.5% aqueous solution per day—100 c.c. per hour. —Modern Medicine.

BOOKS

CLINICAL LABORATORY METHODS AND DIAGNOSIS, by R B. H. Gradwoht, M.D., D.Sc., Director of the Gradwohl Laboratories and Gradwohl School of Laboratory Technique; Formerly Director of Laboratories, St. Louis County Hospital; Pathologist to Christian Hospital. New Third Edition. In two volumes. 2230 pages. 726 illustrations. 57 color plates. The C. V. Mosby Company, St. Louis. Price, \$20.00.

New features include:

Urine Analysis—The latest information available on kidney function tests, including urea clearance, las been incorporated.

Blood Chemistry—Now includes use of the photoelectric colorimeter; every important item of laboratory investigation on liver function; work of Somogyi on blood and urinary diastase; the physiology of bile formation.

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Blood Groups and Transfusion—A new chapter with complete information, discusses the Rh factor, M and A agglutinogens, the subgroups of group A and all known data on the P factor. Methods for making sera, including anti-Rh, are given in detail. Shock is discussed from a physiologic and medical standpoint. Transfusion procedures and the use and preparation of liquid and dried plasma are carefully delineated.

Gastric Analysis—The fluorescent method for examination of tubercle bacilli has been added.

Special Tests—New Methods of vitamin assay and identification minutely detailed, easy to follow. Also included are Greenblatt's examination of estrogenic substances and the work of Weisman on spermatozoa sterility.

Bacteriological Applications to Clinical Diagnosis—Latest methods of blood culture analysis; advances in identification of pneumococci; Brewer's work on anaerobiosis: sections on brucellosis and rickettsial disease entirely rewritten—new methods on brucellosis; section added on examination of typhoid, parathyroid and dysentery group; penicillin. the powerful new anti-bacterial agent, is covered briefly.

Scrology—The Kolmer technic has been revised by Dr. Kolmer; the Kahn technic revised by an eypert; the Mazzini test is included; complement fixation tests for Rocky Mountain fever have been added.

Tissue Cutting and Staining—This section has been almost completely rewritten to include the important contributions of A. A. Krajian, whose

methods have reversed so many opinions on the relative merits of frozen and paraffin sections.

Parasitology and Tropical Medicine—Thoroughly revised with the coöperation of Dr. Pedro Kouri of the University of Havana. The illustrations, including two color plates, are almost all new. Many original drawings illustrating the life cycles of parasites have been added. Dr. Kouri has scrutinized the section on helminthology carefully, made many changes.

The scope of the work is encyclopedic. Yet, the subject matter is so presented as to make it easy to learn what the author regards as best in any given case. The first edition contained all that was known, at that time, of practical value on clinical laboratory diagnosis. Each revision has faithfully followed out this plan. The present edition furnishes all the techniques and interpretations of established value. Certainly there is no better coverage of the subject anywhere.

A TEXTBOOK OF MEDICINE: Edited by Russell L. Cech, A.B., M.D., Sc.D., Professor of Clinical Medicine, Cornell University Medical College; Attending Physician, New York Hospital; Visiting Physician, Bellevue Hospital, New York City. Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D., F.R.S.E., Professor of Clinical Neurology, Cornell University Medical College; Attending Physician, New York Hospital; Visiting Physician in Charge, Neurological Service, Bellevue Hospital; Consulting Physician, New York Neurological Institute. Sixth Edition, Revised and Entirely Reset. 1566 pages with 195 illustrations. W. B. Saunders Company, Philadelphia and London. Price, \$9.50.

This, the Sixth, Edition of a standard text on Medicine contains articles on a number of subjects not covered in previous editions. Prominent among these subjects are Virus Pneumonia, Salmonella Suipestifer Infection, Freidländer's Bacillus Infections, Hirudinea, Contact Dermatitis, Aviation Medicine, Seasickness and Air Sickness, Undernutrition, Pathologic Physiology of Circulatory Failure and Cardiac Pain and Senile Osteoparosis.

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Among the 150 physicians and surgeons who have written this excellent book, of special interest to doctors of this section of the country are: Doctors: Walter C. Alvarez, Harold L. Amoss; *Raymond L. Ditmars, Warfield M. Firas, Frederic M. Hanes, Foster Kennedy, Warfield T. Longcope,

James S. McLester, T. Grier Miller, James E. Paullin, David T. Smith, Tom Douglas Spies, Thomas P. Sprunt, V. P. Sydenstricken, William S. Tillett, Paul Dudley White and John B. Youmans.

A large portion of the book is made up of articles on subjects dealt with in few books on Practice of Medicine, yet constituting parts of the daily work of the general practitioner. An invaluable feature, and one that will be appreciated.

*Deceased

THE NATURE AND TREATMENT OF MENTAL DISORDERS. by THOMAS VENNER MOORE, O.S.B., Ph.D., Professor of Psychology and Psychiatry, Catholic University of America. With a Foreword by EDWARD A. STRECKER, M.D., Professor of Psychiatry, Graduate and Undergraduate Schools of Medicine, University of Pennsylvania; Consultant and Chief of Service, Institute of the Pennsylvania Hospital, Philadelphia. 316 pages, appendix, references, index—\$4.00. Grune & Stratton, Inc., Medical Publishers, 381 Fourth Avenue, New York, 16.

Dr. Strecker's foreword pays high tribute to the practical usefulness of this book, and as one goes on he is convinced that this tribute is well deserved. The illustrative case reports are of the kinds of cases a doctor sees in his own practice.

The table of contents is in sufficient detail to indicate the scope:

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JAMES M. NORTHINGTON, M.D., Editor

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Psychological Study of Sterility in Women*

JOSEPH BEAR, M.D., Richmond, Virginia

THE DISCUSSION of the subject to which this I paper is devoted will be arranged along the line of general considerations and no attempt made to discuss any of the specific details. The scope herein described does not include the problem of sterility in the male, but this, like its feminine counterpart, offers an almost new opportunity for psychological study. The association of the relations of psychiatry to other medical and surgical specialties, and especially obstetrics and gynecology, is comparatively new. These relations embracing the complex etiological, concomitant and resultant roles which psychological or emotional factors play in all types of human illness, comprise the most recent emphasis in medicine, sometimes being referred to as psychosomatic medicine. In the consideration of this classification of medicine it may be regarded that the individual is a psychological-chemicalphysical unit, a personality possessing and operating what we know as a person and everything that happens to this individual-as-a-unit has psychological, chemical, physical and social aspects.

In the field of obstetrics and gynecology there already exists an appreciation of the importance of the correlation with psychological factors, since the sexual-reproductive processes are obviously physiological, chemical and psychological. Therefore, proper understanding of illness and proper treating of sick persons includes something more than a knowledge of disease.

Marital unfruitfulness has always been considered by the great majority as a great misfortune and in ancient times even as a curse. Upon the unhappy woman was usually placed the blame ("the woman thou gavest me"); but, in our presentday knowledge the fault lies in the male in thirty to forty per cent of the cases! It is estimated that ten per cent of all marriages are sterile. Nature in her infinite wisdom has provided woman from the time of birth with a maternal sense and desire for children. This maternal instinct is the dominant trait and central point of her being. Nature conceives of woman chiefly as a mother, even more than as a mate, and has endowed her with mental and moral characteristics which are conducive to her role as mother, and which find their true explanation and unity in the maternal instinct—realism, judgment, patience with details, love of the small and helpless, desire to take care of someone, strong animal love, tender sympathies, great personal and emotional slant and a personal outlook on things generally.

In Nature's scheme, the paternal instinct is not as great or as profound and none is provided for; for man, like the drake or gander, has little concern over his offspring other than contributing his essential part. Woman, therefore, suffers most psychologically when this central motive power of their being is not expressed and does not function. Man, we know, is the most amorous animal in the zoö-

^{*}Read before the Caduceus Club, Sept. 13th, 1943; Grace Hospital Staff Meeting, Nov. 4th, 1943.

logical kingdom.

No study of fertility or sterility can be in any degree satisfactory unless it be conducted in the light of a competent knowledge of the normal physiology of impregnation. Most of the recent advances in our knowledge of the failures in fertility which constitute sterility are, in fact, the result of work done on laboratory animals; but it should be borne in mind that the anatomy and physiology of one animal often varies greatly from those of another species. This vista furnished by knowledge gained from other animals thus presents a problem which can be solved satisfactorily only in the light of biologic principles.

In the specific study of any subject in human physiology we invariably meet with many obstacles which do not exist in the conduct of laboratory experiments on other animals. We cannot submit individuals of the human race to experimental conditions. We cannot study the various processes in minute detail by killing several individuals at different periods in an investigation. Rarely can we have the benefit of the follow-up observations which are readily to be made in the experiments on control animals. But, on the other hand, there is a distinct advantage that in the study of the human, fairly accurate details of the past history and of the symptoms and sensations can be elicited. Also, decided advantages are derived from the much more perfect methods of examination which have been outlined in detail for the human. The study of human fertility and sterility, therefore, requires a full knowledge of general biologic principles, of the physiology of impregnation, and of clinical experience, during which the essentials of both sciences have been applied to the complexities of our human race.

SEXUAL FACTORS

It is often stated that there has been a fundamental change in the nature of woman especially during the post-war period. According to Charles Duff, there has been no fundamental change in the nature of woman since the dawn of history: there is a peculiar sameness about woman's nature everywhere and at all times. The specific reason for this is that she has a function which dominates all others and far exceeds in their impelling force all those of man-the function of procreation and the early care of children. After self-nourishment, it is the supreme function of the human being, and very well woman knows it. Her physical and psychological texture is patterned toward this great end. Her whole behavior revolves around it and is held in a more or less fixed manner. The superficial fashions and manners of woman may change; but not woman herself. As a biological being, woman tends to follow the trend of man's development. but always there looms in the background the great function of sex and the reproductive instinct.

Woman may be a different creature from what we have believed. She may be just like a man in every respect except that she produces ova instead of spermatozoa. The psychical influences which proceed from the female genital organs in the different periods of sexual life have also great significance for the organism as a whole. Many impulses, both stimulating and depressing, arising in the reproductive organs may affect the mental status. The maiden at puberty is affected by the knowledge of sexuality: the sexually mature woman by the desire for sexual satisfaction and by the yearning for motherhood—the processes of pregnancy, parturition and lactation. Psychical manifestations and the nervous states associated with these are rather frequently, and even actual psychoses occasionally, encountered in the various phases of the sexual life of woman.

PSYCHOLOGICAL FACTORS

The psychiatrists' opinion that the emotional state of a woman influences conception makes this subject still more interesting as an important factor in the widespread problem of sterility. In this new field of psychosomatic investigation it is believed that psychic and somatic phenomena are different aspects of the same thing. Due to the vital interrelationship between psyche and soma, not only is the psychic life influenced by changes in the somatic being, but psychic influences may also change the somatic state. Emotional conflicts can result in somatic dysfunctions and psychological therapy is often able to bring about improvement in such disorders. This is equally as true of the generative functions as of other physiological processes. Investigations into the problems relating to pregnancy include the well-known phenomenon of conception occurring in a previously sterile woman after she has adopted a child. Many women do not conceive although no organic obstacle can be found. There may be some hidden biologic phenomenon. Due to some change in the mode of life situation of some of these women (for example after adoption of a child), but without discernible changes in their structure or physiology, conception takes place. This has become common knowledge, to the extent that married couples, about to adopt a child, often hear predictions to the effect that they will now have a child of their own. Unfortunately, accurate statistics of the frequency of such blessed events are not available; but, inasmuch as almost everyone knows of one or two such cases, they must be of rather frequent occurrence. Common experience and observation seem to agree here with the psychosomatic viewpoint that psychological factors may play an important role in the ability of a woman to conceive. Recently, the scant literature on this interesting topic has been reviewed by D.

W. Orr, who has contributed probably the first careful psychological survey of a childless married couple who had a child of their own shortly after the decision to adopt. The literature consists chiefly of discussions of the possibility that sterility may be psychogenic. The views of several observers are outlined by Dunbar as follows:

"Psychic influences, associated with a vivid but unsatisfied desire for a child, may stimulate the ovaries to pathological growth. It is possible that this may result in premature maturation of the follicles and discharge of ova which are not ready for fertilization, and consequent sterility. The peculiar cases of first conception after fifteen or twenty years of married life may be explained by the fact that as a woman becomes gradually reconciled to her sterility this injurious influence on the follicular apparatus disappears. The influence of psychic factors on the endocrines is sufficiently proven to give additional justification for the belief that psychically influenced hormonal proceses may play a role in conception." Orr summarizes Benedek's views as follows: "There is a definite interrelation between the psychosexual development of the individual and the hormonal cycles, so that psychosexual fixations or inhibitions may lead to irregularities of the gonadal cycles producing a psychosomatic vicious circle."

EFFECTS OF CHILDLESS MARRIAGE

With ten per cent of marriages barren, there must be in this country today at least 2,000,000 childless couples who are still at an age of potential child-bearing. No doubt, modern civilization and the high-geared age play some part in the rapid decline of production of children. Voluntary limitation is, perhaps, the chief point in the development of such a state of affairs; but involuntary sterility is a factor of considerable magnitude.

Failure to conceive is frequently responsible for much unhappiness and when the natural maternal longing is not gratified, the woman's very nature will frequently become changed and her mind take various abnormal slants that are not conducive to her happiness, or the happiness of those around her. The psychic changes which occur are many and at times marked. There may be lassitude, shyness, tendency to introspection, changes in the mental and emotional outlook, alteration in temperament, irritability, psychological reactions, depressions-mingled bitterness, regret, anger and despair. In those women with a psychasthenic tendency these changes may become very serious. It may be reasonably assumed this long-continued psychologic change produces an altered metabolism which is certainly not conducive to pregnancy. When a childless patient sees a child with a friend or even with a stranger there tends to be immediately set up in her being, a complex emotional

tension—a feeling of anxiety, disappointment, distressing consciousness of sterility, a sense of depression with its associated reactions.

These patients migrate from one physician to another, sometimes receiving only a meager survey. As a rule the husband sends his wife for examination because he takes it for granted that she must be the cause, or the wife comes of her own accord under the same impression and in the desire to remove any obstruction to marital happiness. The physician is thus easily tempted to direct his attention chiefly to the wife and to neglect the husband, a practice which is quite wrong, as our views on this subject have undergone great change in recent years. These facts have caused a complete revolution in the therapeutic approach. Unfortunately, it has been the custom of some members of the profession to go lightly into the case and dismiss the patient with the statement, "I see no reason why you can't get pregnant." Then they may or may not seek other advice. Still another angle in this connection may be briefly mentioned. Even in the case where the specialist makes the examination and finds, for example, a minor pelvic lesion, one is prone to make a hasty decision as to the outcome and the patient is told promptly, "You cannot become pregnant." This is bad psychology, and the lesson it teaches is to be tolerant. more reserved, and that the case in question should be studied more in detail. For even in the presence of various pathological findings, for example, congenital anomalies, glandular dyscrasias and pelvic tumors, in due time many cases can be rectified. When these women do not attain their supreme objective and the child-bearing cycle remains incomplete, as the years pass by they become hypersensitive and depressed as their visions of motherhood still remain unrealized. There is, indeed, a tragic incompleteness in the home lives; they felt that in the most important of all earthly functions they have failed.

PREVENTION OF STERILITY

In this connection the period to begin is in early childhood and the approach to puberty demands special care. One may venture to say that the time is not far distant when preconceptional care and even care at puberty will play the most important role in the field of conservative obstetrics. This plan will tend to bring about the proper development of these young women, that they may reach the reproductive stage in best physiological potency.

Disregard of abnormal symptoms in girls is much to be criticized. It results partly from lack of appreciation on the part of the parents of the importance of preventive care and partly from the idea that vaginal examinations of unmarried girls is contraindicated. Allen believes that physicians,

too, are inclined to stress too little the importance of various abnormal symptoms such as pain or excessive bleeding. The efforts of the profession should be directed toward the education of women concerning the value of preventive rather than curative medicine, especially at the beginning of the maturation process; and the necessity for careful, routine, physical examinations, even of young girls. Universal sex enlightenment is also of great importance. Routine rectoabdominal examination (especially in girls) is advocated and if it becomes necessary, a vaginal examination. By intelligent foresight and careful examination many of the disorders of the growing girl and adult woman, such as functional dysmenorrhea, amenorrhea, congenital erosion, genital irritations, infections, frigidity and sterility, as well as psychological disturbances, may be modified or prevented. This preventive aspect of the management of human sterility not only involves the work of the physician, but also extends into the fields of economics, of sociology, and of education. Thus the psychological approach leads to measures having a more far-reaching effect. A practical scheme of prevention is applicable to several of the underlying causes of infertility. Important among these are: genital hypoplasia, faulty sex hygiene, venereal disease, improper therapeutic measures and a long delay in treatment.

Many sterile couples strongly desirous of children are prone to live in hopes for many years before they seek help in the solution of their problems. Many a sterility which might be relieved with comparative ease at the age of twenty-five becomes more resistant to all efforts, even irremediable, ten years later, when the maximum degree of fertility of both partners has diminished according to the normal physiologic principle.

Conclusions

In concluding this presentation on such a vital human topic, I have, with full realization of its many shortcomings, given an exposition of the problems with the endeavor to aid in the psychological and therapeutic approach to this social blight so vitally concerned with the welfare and perpetuation of the race. The search for the cause of sterility is of paramount importance. Before study of the female partner is begun, the fertility of the male must be evaluated and his responsibility determined. Although the sperm cells come from the male they play their most important role within the female, hence both partners should cooperate and a thorough investigation be made as to the combined fertility levels. It is a problem of the seed and the soil. The causative factors are many. They may be local, systemic, functional or organic and are frequently associated with endocrine dysfunction. Besides a detailed history of the life and habits of both partners and a complete physical survey,

psychologic observations should be regularly made. Incomplete studies usually prove fruitless. The medico-social field of human reproduction demands more. Sex maladjustment and various incompatabilities can be safely minimized by early investigation and prompt treatment. Many of these patients feel they are wellnigh helpless. It becomes the important duty of the physician to display a feeling of understanding sympathy and helpfulness, encouragement and inspiration, with a deeper appreciation of the fact that there is an instinctive urge to gain a complete insight into the pattern of their living and a willingness to bring forth off-spring.

As has been truly stated, a fruitless marriage is one of Nature's saddest tragedies and, from whatever angle it may be viewed, the result is detrimental to the best interests of society.

With the advance of years, science has substituted knowledge for platitudes. Improved scientific techniques and special tests have now advanced to the point where the psychological aspects of sterility can be observed. With careful and faithful study of these problems, the relationships between fertility and emotional states can often be explored with happy results. This may serve as a new sign-post for proper direction toward further development. Thus, all this leads to one desired goal, the expulsion of the fully developed end-product of conception, namely, babies, which may be rightly defined as: "The rivets of the bonds of matrimony."

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DEMEROL-A NEW ANALGESIC

(C. S. White, Washington, in Med. Annals of the D. of C., Oct.)

I have used Demerol for more than a year in more than a hundred cases of many varieties of diseases, the whole bing a very fair cross section of a surgical service.

For the relief of pain of a spasmodic character, such as the renal and biliary colics, it has proved a satisfactory substitute for morphine, in doses of 100 mg, hypodermically, in that the pain was controlled within 10 minutes, and the relief has lasted two hours or more. In several instances a sensation of flushing or dizziness was noted, but vomiting, nausea, pruritus and excitation were not produced in any case.

It has been my practice in operative cases to give 100 mg, hypodermically q. 3 or 4 h. in the first 24 hours following the operation, and gradually to increase the period between the doses in the next 24 hours. It is rarely necessary to use it on the third day. I depended on the barbiturates thereafter.

Especially useful in those cases in which morphine causes nausea, depression, itching or excitation.

In no instance has an alarming symptom followed its

Demerol has an analgesic and spasmolytic action, resembling the combined action of morphine and atropine. It is not a somnifacient in the strict meaning, but sleep often follows its use because it relieves pain. It can be combined with the barbiturates in the preoperative preparation of patients. It is distinctly indicated in pain due to spasm of involuntary muscle. It is not toxic in doses recommended and may be given orally, hypodermically or intramuscularly. There is slight risk of habituation.

LINSEED OIL AS A MEDICINE

(C. W. Reynolds, Covington, in Ky. Med. Jl., Nov.)

Potter's Materia Medica mentions that linseed oil is an excellent demulcent in coughs of various kinds.

Four years ago I had in my own person an aggravated case of sinus condition that while it was helped by the usual sprays, etc., still it refused to clear up. I recalled having read that in a Chicago laboratory vapors of linseed oil (accidentally used) had appeared to protect animals against cold.

Never having used linseed oil previously, I started with teaspoonful doses, t.i.d. The next day I took double dosage. No unfavorable symptoms appearing, I doubled the dose the next day and my "cold" was gone. I kept up the dosage for several days. A "return engagement" came in two months; tablespoonful doses for a day and the sinus trouble was very much better and gone by the next day.

Some weeks after a patient arrived who stated that his nose was "running like a sugar maple." I prescribed the oil—having found no sign of polypi or other exciting cause—and told him to get the prescription filled at least once and not to stop a single dose, no matter how unpleasant the taste might be. Some weeks afterward he came in and stated that that medicine had cured him, but he had never taken such a vile dose.

The results for sinus conditions have been uniformly satisfactory.

LESS CANCER OF THE STOMACH?

(F. W. Mulsow, Cedar Rapids, Iowa, in Amer. Dig. Dis., Aug.)

The authorities are agreed in saying that in this country 30% of the total recorded mortality from cancer is represented by the recorded mortality from gastric cancer.

Cancer of the stomach has been found to cause about 5% of all cancer deaths in Cedar Rapids during the past eight years, and there are about 5% more cases in which gastric cancer was suspected. Cancer of the stomach at the Hospital of the State University of Iowa accounts for 5.3% of all cases of cancer admitted there. The low incidence of gastric cancer in Iowa may be affected by the State's high percentage of rural population, little poverty, more accurate diagnosis in the data presented and other unknown factors. Some evidence is presented to show that gastric cancer in the United States is not as prevalent as many authors indicate it to be.

CLINICS OF 1600 YEARS AGO (United Editors Encyclopedia & Dictionary)

Baptism in "dangerous illness" in any other form than immersion was known as "Clinic Baptism" (the Baptism of the bed, G. klinos=bed), and the practice came in, so far as is now known, in the following way:

About 281, Novatian was supposed to be dying, but was unbaptised; and so alarm seized his friends, who believed that no man could be saved who died in that condition. His illness would not allow him to be immersed thrice, but something must be done to save him, and in haste. Hence, while stretched upon his supposed bed of death, water was poured in an outline all around his person, inclosing his entire body from head to foot, and was then poured all over him, till he was drenched, making perfusion as near immersion as possible, with the understanding that if he died, this was to stand for Baptism, but if he lived, his Baptism was to be accounted defective. He lived; and Cornelius, Bishop of Rome, wrote to Fabius, Bishop of Antioch, complaining of such a shocking innovation. Cyprian rebuked the early Christians for calling such converts Clinics, "a nickname, which," he said, "had been fixed upon those who had been perfused upon their

MENU OF A DOCTOR'S BANQUET 50 YEARS AGO*

Little Neck Clams

Puree of Asparagus

Rockfish Cutlets

Filet of Beef, Olives

Potato Balls

French Beans

| Roman Punch | Pate of Fresh Mushrooms | Snipe | Potato Salad | Roquefort | Nuefchattel | Ices | Fruit | Coffee | Cigars | Cognac

*Held by the College of Physicians on the occasion of the presentation of the Whitman portrait of Dr. Oliver Wendell Holmes, April 30th, 1892.

FOR TOOTHACHE (1842).— To. 1 oz. sulphuric ether add as much camphar as will dissolve and a drop of strong ammonia water. A layer of camphor is deposited which excludes air from the denuded nerve. M. Cottreau has applied this mixture to tooth cavities for four years with uniform success.— So. Jl. of Medicine & Pharmacy, 1847,

Low Incidence of Dental Decay in a Texas County

GEORGE W. HEARD, D.D.S., Hereford, Texas

DENTAL CARIES is rare in the town of Hereford and the county of Deaf Smith, Texas, but the fundamental underlying causes are not common knowledge. There has been some research work done, but not enough to reveal the causes. Concerning the conditions or causes of this phenomenon I have a firm impression from my observations extending over a period of twenty-eight years.

Whatever the determining cause may be it is manifested not alone in human teeth, but in all animal life, particularly as to the bony structures. For instance, I am told by best authority that packing houses say that the best meat which is shipped to them comes from this area, and that feeders say that steers in the feed pens which net the greatest gain are those from this area.

My observation is that, both physically and mentally, this area furnishes superior zoölogical specimens at all levels of the animal kingdom, and my fixed opinion is that, if the people who live here would confine their food to that grown here, the superiority would be so great as to attract nation-wide attention and so occasion research work which would shed much light on the still obscure problem of dental caries.

I have never been convinced that the low rate of caries of teeth here is due in any way to amount of fluorine. Families vary greatly in this particular. Some have brown stain, some do not. Some have more decay than others. Those who eat largely of meat, white bread and potatoes have more brown stain, but no decay; while those who eat largely of milk, fruit and vegetables, with meat in moderation, have no brown stain or dental caries. Those who eat largely of refined foods such as white bread and sweets have more decay.

Recently there came into my office a patient whose case is especially illustrative. He is an old-timer in this area. On examination twenty-two newly decayed teeth were found. I told him he had recently changed his food to large amounts of refined starches and sweets, which he admitted was true.

After twenty-eight years of interrogating my patients, together with my experience and observation, I am of the opinion that this phenomenon is due to our soil's richness in minerals and vitamins.

The human body's normal requirement of minerals and vitamins is greater than it is generally

assumed to be. These minerals and vitamins must be supplied through the food consumed and if for any reasons these elements have become scarce deficiency disease develops. Since these various minerals and vitamins are not present in normal amounts in plant food grown in soil impoverished of these essential elements the meat of animals nourished by this plant food will be correspondingly deficient. Teeth, along with bones and all other organs of our body, are strong or weak according to the state of mineralization of the soil from which our food—vegetable and animal—is derived, and also according to how much these foods have been refined.

When this earth was formed for a habitation everything needful for the proper nutrition of all living things—vegetable and animal—was placed in the earth. When man suffers from disease or lack of anything really needful, it is due to his failure to make use properly of the elements given him.

Although the difference has been greatly exaggerated, still the evidence is conclusive that primitive peoples isolated from the white man's civilization have sounder teeth and bodies. Contact with the whites tends to rapidly remove this difference, even to reverse the ratio.

In an article in a recent issue of the *Journal of the American Dental Association* the author says he would not be challenged if he should say that dental caries is the result of bacterial invasion. Even if this were admitted, which it is not, generally, the admission would mean little.

An invading army accomplishes little destruction and is soon overcome when it meets with strong and adequate resistance. Bacteria in great numbers and in great variety are to be found in every human mouth. So long as the powers of resistance to their attack are maintained they can do no harm, and attract no attention. These bacteria are found in the mouths of the people of all communities; not so with caries, which varies all the way from zero to above 95 per cent.

The caries of teeth in my practice is practically nothing.

I make from three to six dentures per week. Few, indeed, are the natives of my county who lost their teeth from caries. Most all the natives who require dentures lose their teeth by the pyorrhea route. There are many newcomers here.

With very few exceptions, these can be readily identified by the condition of their teeth; and after a mouth examination of a native it is easy to tell the type of food he or she eats.

Recently a patient of middle age, a patient of mine for many years, came into my office. I put in twenty-two cervical fillings, then told him he had recently made a radical change in his diet, and I told him the type of food which he was then eating. He admitted that I was correct. The writer in the Journal of the American Dental Association says the cause of decay is bacteria, I say it is the food the patient ate, rather deficiencies in the food. Bacterial action is of secondary—or tertiary, or quaternary—importance; because had resistance been maintained the bacteria could not have got in their destructive action.

The growing of plant foods has depleted the soil in most areas of the world of essential mineral elements; and our system of fertilization has failed to restore these elements in adequate quantities. The "refining" out of our foods of other essential elements further impairs the nutritive powers of many of the most important articles of our diet. These two practices, together, I am convinced, are largely responsible for the alarming prevalence of tooth decay. Repair work and treating symptoms cannot remove the cause.

This is in the nature of a preliminary report. It is my intention to obtain and publish figures contrasting the incidence of dental caries in Deaf Smith County with its incidence in at least one other county, so circumstanced as to lead one naturally to suppose that the incidence would be much the same.

I am confident that here is a clue, which, being diligently followed up, will lead to at least a partial solution of a problem which has, so far, baffled all our efforts.

The Teeth in Relation to Mental Diseases

CHARLIE M. DOUGLAS, D.D.S., Columbia, South Carolina South Carolina State Hospital

SINCE my practice of dentistry is confined to the care of the mentally ill, I am glad to comply with the editor's request and give the readers of Southern Medicine & Surgery some of my observations as to the benefits derived by certain of these patients as the result of proper oral hygiene. It is the belief in the minds of many medical men that foci of infection in any part of the body are factors in lowering body resistance and thus rendering the individual more susceptible to many conditions of a serious nature. Since a healthy mind depends in a measure on a healthy body, it is natural to deduce that in those cases in which infection is playing a part in producing the mental picture, should the cause be removed the mental condition would be improved, if not entirely relieved. Dental infection, or the broader concept oral sepsis, falls in the category of foci of infection.

You have all seen cases in your practice in which there was a noticeable improvement in the general physical condition of a patient as a result of dental treatment and elimination of dental infection. In many cases, the patients have no doubt shown apparently complete recovery after dental corrections were made. I have seen marked improvement in both the mental and physical condition of many patients coming under my care as a result of re-

moval of infected teeth; and I have heard the staff physicians, who see these patients more often than I do, speak of their improvement in general, both physical and mental.

I will cite a few cases in which the patients showed definite improvement in their mental condition, as well as their physical condition, as a direct result of various dental corrections.

Report of Cases

Case 1.—A white woman, aged 45, at matron in an orphanage, suffered from manic-depressive psychosis. She was wild, fought every one, talked irrationally, refused to answer questions, used profane and abusive language. It was necessary to resort to hydrotherapy and sedatives in order to conserve her strength. Her teeth were badly decayed and loose in their sockets. There were several residual roots and abscessed teeth. All remaining teeth were extracted over a period of six weeks and dentures made. The patient was soon paroled and has not returned. She was improved mentally and physically, quiet, became pleasant and agreeable and was a different person. That the dental correction was a factor in bringing about the improvement by doing away with the absorption of the products of infection, seemed manifest to the patients medical and dental attendants.

Case 2.—A white woman, aged 39, came to the dental office, as is the routine requirement for newly admitted patients, soon after being admitted to the hospital. She was undernourished, weak and emaciated, weighing only 90 pounds. Röntgenographic and clinical examinations revealed several abscessed teeth. These teeth were removed and bridges provided. At the time the patient was paroled, after a period of four months hospitalization, she weighed 132 pounds.

Case 3.—A white boy, aged 18, suffered from manic-depressive psychosis. He would become wildly excited, talk ramblingly, was uncontrollable and very nervous. He complained of headache and sharp pains about the face and head. The teeth looked to be in good condition. A röntgenogram revealed two impacted lower third molars and an upper left cuspid. These were removed and the patient showed an immediate improvement. He was discharged from the hospital in two weeks after the three impacted teeth were removed. In this case, it seemed reasonable to assume that these three impacted teeth were the cause of the condition. Anyway, the patient was paroled and has not returned.

Case 4.—A white woman, aged 49, a schoolteacher, suffered an attack of mental trouble (her first), beginning two months previously. The case was characterized by deppression, agitation and untidiness. The diagnosis made by the medical staff was psychoneurosis, with no dangerous tendencies: but inclined to be rather talkative, nervous and restless. The patient was somewhat undernourished and anemic. When she was first brought to the dental office, several roots of teeth were extracted. About an ounce of browning-gray pus drained from the root sockets, coming from the antrum. The antrum was treated, and later other dental corrections were made and the tonsils were removed. This case was reviewed by the staff and soon the patient was discharged. It was particularly interesting to note her recovery, both mentally and physically.

Case 5.—A colored man, aged about 55, was talkative, profane and untidy, and had homocidal tendencies. He said he had not been well for several months. There was considerable hypertrophy of the gums. Many of the teeth were in poor condition and the gums were swollen. The teeth were all extracted. Soon after this, the patient became quiet, coöperated with the attendants and expressed a desire to go home. Parole was granted and he has not returned.

These case reports represent patients who received dental treatment during the year 1939, which is about four years ago.

Many other of our cases, similar to these, show-

ed improvement in the mental as well as the physical condition after having appropriate dental treatment. From studies of all these cases, of which the foregoing case reports afford illustration, the conclusion is inescapable that those mental situations more or less dependent on oral sepsis are improved when the source of the trouble is removed.

PHOSPHATES IN THE THERAPY OF CHEMICAL BURNS

(Eduard Poser & Edwin Haas, Chicago, in Jl. A. M. A., Nov. 6th)

The phosphate buffer recommended here for the neutralization of chemical burns is prepared by dissolving 7 Gm. of monobasic potassium phosphate and 180 Gm. of dibasic sodium phosphate in 850 c.c. of water. The phosphate solution is neutral and, owing to its buffering action, the hydrogen-ion concentration will always remain in the physiologic range.

Its being non-orritating is shown by the fact that its application to a normal eye merely results in some hyperemia of the conjunctiva which will disappear on the following day. Using a more dilute solution of the buffer would eliminate even this slight discomfort.

Certain unphysiologic antidotes are much too acidic or alkaline for the treatment of vulnerable tissues.

Burns caused by acids or bases as ordinarily treated required different local treatment which necessitated a knowledge of the chemistry of the offending substance. Phosphate buffer has none of these disadvantages. It is neutral in reaction, can be employed safely in high concentration to assure rapid and penetrating neutralization and is equally well suited for the treatment of injuries caused by acidic or basic chemicals.

PRESCRIPTIONS (From New York Physician, Nov., 1943)

Antiscabatic Ointment

G	m. or c.c
Precipitated sulfur	2.0
Balsam Peru	8.0
Castor oil	4.0
Petrolatum ad	30.0

Sugarless Cough Syrup for Diabetics

Gm. or c.c.
0.250
1.500
5.000
2.000
0.016
120.00 r
h.

Rhinitis

Ephedrine Sulfategrs. iv ss
Chlorbutanolgrs. ii ss
Liq. Dextrose & Sod Chloride
Isotonic N.F. VI qs. ad1 oz.
Sig. Drops or spray for nose q. 4, h.

Analgesic

leine S	Sulfate		*******			grs.	iii
tphen	etidin				grs	. X	ĸiv
irin .					grs.	XX	ζvi
feine .						grs.	vi
. Car	s. No.	12					
1 cap	o. every	y 3	or 4	hour	s.		
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DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., Editor, Richmond, Va.

COUNTRY HOSPITALS

The time once was, and not so long ago in this country, when the ablest minds dwelt in the country. One of the reasons was that there were in those times few towns, and almost no cities, in our country. Our ancestors were rural not only in respect to their habitations, but their thoughts and their philosophy were closely related to the soil. Lawyers, physicians, dentists, ministers and teachers lived by preference in the country. The feeling probably prevailed that the human mind was somewhat hampered and restricted in its functionings if it were confined to existence within a city.

Not so many generations ago the well-ordered plantation in the South, at least, produced not only food, but much of the clothing as well. The tannery furnished the leather of which shoes and gloves and harness and bridles and saddles were made. A carpenter and a blacksmith fabricated vehicles and most of the utensils and farming implements.

But the machine has almost entirely replaced the human hand in the fabricating art. And the assembled machines, in one or in many buildings, have brought people from the country to operate them, and the manufactured products are now sent into the rural areas which formerly produced them. People now look to the centers of population, to the towns and the cities, to supply most of those fabrications that were once made on the old plantations. Manual skill has been withdrawn from the country into the towns and cities.

But it is no longer necessary for all the manufactured goods to be produced in the cities. Paved highways and gasoline engines now interlink all portions of the country. The large truck is almost the equal in transportation to the box-car. The uninterrupted flow of the electric current into even remote rural areas affords almost unlimited power for driving machinery, for lighting plants and residences, and for hoisting an abundance of wholesome water from deep wells. Neither the city nor the town of today has many necessities and luxuries that cannot be afforded far out in the country.

It is high time that the people who spend their lives in labouring in the country in producing the food supply of the people begin to insist that science be directed to them where they are.

Except for the convenience of physicians, nurses and trades people I can think of no valid reasons for the location of practically all hospitals in towns and in cities. In the country there is spaciousness, quietness, a more wholesome atmosphere, a bluer sky, and an environment largely unstigmatized by the hand of man. Hospitals for the country people should be located in the country. In the country hospitals can be operated more economically, patients in them can have a more unlimited and inviting environment for in- and especially for out-of-doors convalescence. Country people would feel more at home in country hospitals and their pride in the hospitals of their own community would constitute a substantial supporting factor.

Little consideration is given to the people in the country except during the brief period occupied by a political campaign. Save when the vote of the ruralite is besought, he is seldom thought of with much dignity and concern by the urbanite.

The time is already here when the people who live in the country and who feed the people of the world and who constitute the best in citizenship should demand that the good things of science be brought and be sent amongst them.

There is no valid reason why every populous country area should not have its community hospital. The support and the management of it should be a joint affair by local citizens and by local government. And the country community in which there is a good hospital in which the country doctor could treat his own patients would be lacking neither in nurses nor in physicians. It should be as wholly unnecessary for the woman and the man of the country to go into town for hospital care as to make such a journey for a pint of peas or for a barrel of flour.

UROLOGY

RAYMOND THOMPSON, M.D., Editor, Charlotte, N. C.

PREVENTING KIDNEY STONES

THE SURGEON operating for removal of kidney stone has two responsibilities—the removal of the stone and the prevention of recurrence. Some patients, having been warned of the gravity of the operation, will refuse the benefits of surgery till disastrous injury has resulted. With health impaired they then undergo an operation and often, surprisingly, withstand it.

Boyd's presentation¹ of this phase of urologic practice is well worth our attention.

The fact that a kidney stone may be a menace to life is not generally appreciated. Before operating the surgeon should know the type of stone

^{*}Staphylococcus is the most probable.
1. Kidney operations in Renal Calculus, Montague L. Boyd,
Southern Medical Journal, November, 1943.

in the individual case and have informed himself on causes and prevention of this kind of stoneformation. He should have a knowledge of the normal circulation of the kidney and of the variations from this normal which may be encountered.

The formation of stones in the majority of cases may be attributed to one or more of four causes. It is rare for stones to be caused by any one factor acting alone:

- The precipitation in the calices or pelvis of urinary salts.
- Lack of free drainage of urine (urinary) stasis)
- Injury to the mucous lining of kidney pelvis and calices, and
- 4. Urinary infections with bacteria which lead to the decomposition of the urine and the precipitation of urinary salts and to damage of the mucosa of the pedvis and calices."

To prevent stone-formation, proper kidney drainage post-operatively must be provided. Inadequate drainage is often followed by ureteral narrowing and stricture, and may be an important factor in stone formation; and ureteral obstruction favors the development of foci of infection.

Before operation a knowledge of the distribution of the arteries in the kidney to be incised should be obtained by retrograde pyelogram and examination. Then the operator may make incision so that only the smallest number of arteries are injured. At nephrolithotomomy the incision should be made where the arterial circulation divides. A search should also be made for foci of infection that might cause recurrence of stone-formation.

Postoperatively, the urine should be made acid and, if necessary with an acid-ash diet. "Where there is even a remote possibility of stone formation, the patient should lie on the abdomen at least one or two hours a day, preceding this period by drinking several glasses of water; because by so doing a small stone may often be started down the ureter." A large quantity of fluid should be taken to keep the urine dilute. Kidney infections should be treated by urinary antiseptics. Sulfonamides, in small doses, are wonderfully effective in preventing precipitation of urinary salts from infected urine.

ON SEDATIVISM

(A. N. Foxe, New York, in Med. Rec., Nov.)

If a "bloody Moloch" once "presided in the chair of medicine," one might suspect that before long a "tarry Morpheus" may become the favorite deity.

Sometimes physicians are less able to bear the sight of pain than the patient is to endure it.

It is my sharp impression that apart from pain resulting from gross and frank disease closely followed by the physician, no patient ever should be given a supply of sedatives that will last more than two or three days. Prescriptions should be marked clearly "do not repeat," for the patient's as well as the pharmacist's edification and instruc-

INSURANCE MEDICINE

H. F. STARR, M.D., Editor, Greensboro, N. C.

UNHEALTHY APPEARANCE AND INSURABILITY

THERE is a group of persons applying for life insurance described by the medical examiner as "unhealthy in appearance," "not robust," "pale," "delicate-looking" and the like. Evidence of organic disease cannot be found on careful examination. They cannot be said to have any demonstrable disease, yet they seem to lack vitality. It is a problem to both the examiner and the Home Office underwriter as to how to classify them. The group contains a variety of conditions and it is scarcely possible to separate it into homogeneous classes. The mortality experience in this group, therefore, can serve as a guide in the handling of these cases in only a very general way, yet it does throw enough light on the subject to be of practical value.

Persons with this appearance have long been regarded as borderline or substandard risks for life insurance. Dr. Oscar Rogers and Arthur Hunter¹ in 1923 reported the experience of the New York Life with a group of 3780 such cases issued insurance from 1896 to 1921 inclusive, all issued substandard. A few other minor impairments were included in the group, but not in sufficient numbers to affect the mortality by as much as 5% in their estimation. Of this group, 40% were described as "not robust," 30% as "pale" or "anemic," 15% as "delicate-looking," and the remainder as "lacking resistance," "pale and thin," and the like. Those described as "pale" or "anemic" were selected with unusual care as regards tuberculosis. All of those suffering from anemia or impaired health, as far as could be determined, were rejected or excluded from the group. Only those cases in which the appearance was unusual enough to cause the examiner to comment upon it and in which the impairment was considered by the Home Office medical board to be of sufficient importance to call for substandard rating are included.

The group was divided as to build as follows:

- (a) Average weight (9% overweight to 9% underweight).
- (b) Underweight (10% and more underweight).

Normally there would be twice as many applicants in the average weight group as in the underweight, but here the underweights were nearly three times as numerous, indicating a connection between

^{1.} Dr. Oscar Rogers & Arthur Hunter, Mortality Study of Impaired Lives. Trans. Assn. Life Ins. Med., Directors of America, Vol. X.

unhealthy appearance and underweight. Mortality is calculated on the American Men's (Select) Table.

Not Robust, Pale, Anemic, Delicate-Looking
Ratio of
Actual
No. of Actual Expected to Expected

Cases Deaths Deaths Deaths (%) 1045 76 (a) Average wt. 531 143 (b) Underweight 2735 211 140.8 150 3780 287 193.9 148

The group as a whole was decidedly substandard, the mortality being 48% above the expected. But contrary to expectation, the mortality of the underweights was only slightly higher than that of those of average weight.

In the underweight group, 35% of the deaths were due to tuberculosis, against 25% in the average weight group. A family history of tuberculosis did not appreciably affect the mortality, due no doubt to extremely conservative selection, but 50% of the deaths were due to tuberculosis.

Heart murmurs were present in 409 cases, which, it was thought, was "an expression of the lack of robustness, of the flabbiness of texture of these persons" rather than of organic heart disease. These murmurs not typical of organic lesions do not seem to be of great significance, for the mortality was only slightly increased in the cases in which they were present.

Subsequent experience has shown little change in the mortality of persons who do not appear to be robust. The results must be taken with caution due to the indefinite nature of the impairment. It must be remembered that great care is used in selection and that the seriously affected have been rejected.

When examining a person of frail appearance the examiner is confronted by a real problem. A complete history and a thorough examination are essential. Every effort should be made to rule out disease, particularly tuberculosis and anemia. In the South especially, the possibility of hookworm or other intestinal parasites should be kept in mind.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., Editor, Charlotte, N. C.

DEFECTIVE VISION AND COLOR BLINDNESS CURED?

HARDLY a day has passed in the last 3 or 4 months that I have not been consulted about a cure for visual defects due to refractive error or for color-blindness. These persons are for the most part applicants for some kind of military service, whose visual qualifications and color sense have

been found below the requirements. They inform me that claims are being made in N. C. that the visual defect can be cured by a certain system of muscle exercises, and color blindness cured by a certain type of training. The fee, as I am told, is \$50.00 if no result is obtained after a stipulated period of time, and \$75.00 to \$100.00 if the applicant passes his visual and color tests. The fee of \$50.00 is payable in advance. The period covered by the treatment averages 2 or 3 weeks and the treatments are given at the office once or twice a week and supplemented by some type of treatment utilized by the patient at his home during the intervals between the office treatments.

Many are the stories of the success of this treatment told me by those who seek my advice in this matter and who contemplate taking the treatment. Many have heard of an applicant who, having first failed the visual and color tests before a military board, had met the requirements of the board after having had a series of these treatments.

The writer has not seen any of these "cures" nor can be subscribe to their claims. He therefore has advised all who sought his advice that he is not conversant with such cures and that the results claimed cannot be vouched for. However, if the applicant desires to expend the funds necessary for the treatments he will not, in all probability, suffer any harm from them other than that of financial depletion.

For years the best minds in the field of ophthalmology have endeavored to remedy defective vision due to frank refractive errors by means other than the use of optical lenses, but without result; and no remedy has as yet been found to cure a frank color-sense defect. The writer is familiar with the fact that certain moderate types of refractive errors, especially myopia, producing a visual deficiency slightly below the requirements of the service, may, by recourse to every means of building up physical efficiency, succeed in passing the required tests; but the refractive error was not cured. He has also seen applicants who failed the test for color sense later pass the test after a period of training in familiarizing themselves with colors. These applicants, however, were not color-blind persons. They were on the border line of colorblindness, or color ignorant, or there was some error in the method of giving the test.

It is unfortunate that the public, through its ignorance of the facts in such matters, becomes the victim of such claims. The remedy would be a better dissemination of the truth about these matters; but how to get the public to read and to digest the facts is a difficult problem.

MATERNAL MORTALITY in the United States has decreased in the last decade by more than two-thirds.—
11. A. M. A., Oct. 23rd.

CLINICAL CHEMISTRY and MICROSCOPY

J. M. FEDER, M.D., Editor, Anderson, S. C.

BLOOD SEDIMENTATION RATE AS AN AID IN CLINICAL DIAGNOSIS

OBSERVATION of the sedimentation rate is one of the oldest, simplest, and most valuable of the routine laboratory procedures employed in diagnosis. It requires no expensive equipment, and no high degree of technical skill for its satisfactory application.

Technic for Performance of Test:

Place 8 drops of 20 per cent potassium oxalate solution in a wide-mouth, one-ounce bottle and allow the fluid to evaporate, leaving the finely powdered, dried anticoagulant. Puncture a vein and withdraw 5 c.c. of blood. Transfer this to bottle containing oxalate, after rotating gently to mix with oxalate, pour to a Cutler or Kolmer tube. Set the container upright (slanting will affect the accuracy of the reading). The end result or sedimentation rate is the number of millimeters that the cell column will fall in one hour. When this period has elapsed, read from the top of cell column to top of plasma. This can be told at a glance on the Cutler tube but can be easily measured on a tube without calibration. All one requires in addition to the ungraduated tube is a ruler calibrated in millimeters.

Interpretation of the Test:

Most normal individuals show a drop of 10 mm. in an hour, and this has been designated by us as the normal sedimentation rate.

One of the most valuable applications of the test is its use in appraising the degree of activity in pelvic inflammatory lesions. In these cases the test will keep pace with the clinical improvement, and it is not uncommon to find a sedimentation rate of 30 mm. at the outset of the illness fallen to normal in a week or 10 days. Gynecologists generally agree that operations should be postponed until this stage is reached. (The leukocyte count falls to normal long before active inflammatory reaction has subsided.)

In the early stage of acute appendicitis the sedimentation rate is normal, while in salpingitis it is accelerated. Coronary arteritis gives a distinct increase in the sedimentation rate, while angina pectoris does not give an elevation. Subacute bacterial endocarditis shows little or no acceleration, while in the rheumatic state it is marked. Likewise, arthralgia can be differentiated from rheumatic arthritis by the fact that increased settling is a regular accompaniment of rheumatic activity.

The Blood Sedimentation Rate as a Preoperative Aid in Differentiating Malignant from Benign Tumors:

In our series of 50 cases we are able to differentiate malignant from benign lesions preöperatively in forty of these. In cases of prostatic lesions in which we find an increased sedimentation rate, it is our custom to examine many more sections of tissue removed by transurethral resection, and to search much more zealously.

Conclusions:

The blood sedimentation rate is not a diagnostic panacea and it cannot stand alone. It will at times form the keystone of the diagnostic structure. Its simplicity is such that it can be instituted as a routine procedure in connection with every physical examination, and the technic can be intrusted to the average *intelligent* office nurse.

THERAPEUTICS

J. F. NASH, M.D., Editor, Saint Pauls, N. C.

THE GALVANIC BATH IN THERAPY

THERE CAN BE little doubt that the reaction against physical therapy measures, induced largely by extravagant claims, has taken most doctors to the opposite extreme, so that now we fail to give our patients benefits derivable from this form of therapy.

An article¹ giving experience of such treatment in the New York Polyclinic is abstracted by way of illustration.

The ancient Greeks, according to Pliny, used to take baths with electric eels. Sir Humphry Davy, as long ago as 1807, noticed that if he "immersed his fingers in a glass vessel filled with distilled water, connected to the negative pole of a galvanic battery, alkalies were excreted from his body and deposited in the pure water; but if the positive pole was in contact with the water and the fingers, then phosphoric, sulphuric and hydrochloric acids were deposited and could be detected in the distilled water." No clinical advantage seems to have been taken of this observation for many years.

The administration of electric baths dates back not quite 100 years. In 1852, a gold-and-silver plater, a patient of Dr. Poey's in the City of New York, developed a severe, persisting ulcer on one hand. One day, in sheer desperation, the man plunged his hand into the electro-chemical bath at the positive pole, and held it there for 15 minutes, at the end of which time, the metal plate at the negative pole was covered with a thin layer of

^{1.} H. T. Zankel, Brooklyn (now in Service), in Med. Rec.,

gold and silver. This was repeated daily and after a few days the ulcer disappeared.

Many physicians and a few hospitals used hydroelectric baths in their establishments 100 years ago. Althaus in 1859, Tibbits in 1877, and others discussed their value.

In 1902, J. J. Stanger, a German tanner, suffering with some form of rheumatism, accidentally immersed his hands in a hydroelectric bath filled with tanning solution, and received a shock which almost killed him, but after this he was somewhat relieved of his pains. Concluding that his improvement resulted from the combination of electricity and the solution, he repeated his exposure many times, and a little more carefully, until his pains completely disappeared. Several members of the medical profession became interested in these treatments, and a fairly comprehensive literature developed about them, particularly in France, Austria and Germany.

For the past year, we have been using at the New York Polyclinic Medical School and Hospital an apparatus that may be installed near any bath tub. The machine (made by the Teca Corporation) uses a selenium rectifier for the production of direct and variably pulsating currents. It has two separate circuits, of four outlets each, two positive and two negative, thus permitting the simultaneous administration of currents to eight parts of the body. The milliammeters are fused in the circuits in such a way that an overload will immediately break the circuits, thus supplying an additional factor of safety. Using a specially prepared tannin extract (tecasol), 6 ounces to the averagesize tub, in the past year, under the supervision of Dr. Richard Kovacs, Director of the Physical Therapy Department, we have given several hundred treatments.

The variable changes produced by a galvanic bath may be attributed to: (1) the heat; (2) the current going through the body; and (3) the relaxing effect of the current acting on the skin (not including the psychic element).

By use of the extract less irritating voltages are needed for ordinary treatments and the sensation of the current on the skin is more agreeable. Its dark color makes the immersed part of the body invisible, an important element in the treatment of a sensitive patient.

An analysis of the treatments so far given leads to the tentative conclusion that any illness or disease in which heat is indicated may be considered an indication for galvanic baths—all types of arthritis and rheumatoid conditions, neuritis, myositis, fibrositis, vascular spasm, and muscle spasm. Since the galvanic bath intensifies the effect of heat and prolongs its action, the temperature of such a bath need not exceed 100° F.

A technic which I have devised for the administration of a galvanic *shower*: The machine used is the same as that used for the tub baths. One electrode is placed under or near the feet and covered with a thick layer of cloth or other perforated material. In one hand the subject holds an applicator, consisting of a conductor enclosed by an insulating medium, such as wood, on all sides except one, which is covered with a strong fiber, or like the Teca² applicator, with a very thin layer of perforated wooden material. The hand electrode is attached to the negative pole, the foot electrode to the positive. As the shower is turned on, the hand electrode is manipulated with gentle friction over the entire body.

The temp. of the water should be 104° for the duration of the shower, except that just before its termination the temp. should be lowered to 90° with the massage persisting for a few seconds. This technique should prove useful in the case of soldiers who are fatigued and require an immediate pick-up treatment. For healthy people, its advantages over a galvanic bath is that it lends itself to universal employment by entire groups, and does not have to be individualized to a patient under treatment.

The galvanic bath is of value to the physician and seems particularly indicated in the management of rheumatic conditions, neuromuscular weakness and paralysis, especially where there is multiple involvement and general fatigue.

2. Teca Corporation.

THE RESUMPTION OF ANTISYPHILITIC THERAPY FOLLOWING POSTARS-PHENAMINE REACTIONS

A DOCTOR who treats only a few patients for syphilis needs the backing-up of authoritative statement of the case to keep him from being too timid lest he produce ill effects, and to enable him to proceed with confidence when unfavorable reactions occur.

Such statement of the case¹ is epitomized:

In 381 of the cases of the series reported, 173 of whom had recovered from exfoliative dermatitis and 209 from jaundice, 144 had negative serologic tests at the time of the reaction and 108 of these remained negative. Recurring reactions should be avoided, even to the apparent neglect of the syphilis.

Nausea, vomiting, diarrhea, headache, chills and fever are usually not serious, but occasionally they are premonitory signs of jaundice, hemorrhagic encephalitis or shock. Stomatitis may be the first sign of granulocytopenia; itching of exfoliative dermatitis, numbness of peripheral neuritis.

^{1.} H. M. Robinson, Baltimore, in Penn. Med. Jl., April.

Wash all apparatus after treatment and sterilize immediately before each treatment. Use only freshly distilled and sterilized water. Stir arsphenamine solutions the least possible. If mapharsen is used, stir actively with the admixture of air for a few seconds to liberate the carbonate eleelement. Advise a laxative the evening before treatment. Nothing should be eaten for three hours before or for four hours after treatment. Any active foci of infection should be treated. Avoid rush, excitement, confusion and fright during the treatment.

During three years, we have tried six adjuvants as detoxifiers, normal saline, 10 per cent glucose solution, thiamine chloride, nicotinic acid and nicotin amide and vitamin C—all unsuccessfully in the majority of cases. After failure with these solutions, 5 to 10 c.c. of 5 and 10 per cent salt solution were given intravenously, followed immediately by the injection of the arsenical compound. Good results followed in 13 out of 17 patients. I continue to use it in hope of preventing some reactions.

The nitritoid reaction, in my experience, is never fatal. If severe and prolonged, the intramuscular injection of 0.5 to 1 c.c. of a 1-1,000 solution of adrenalin chloride quickly dispels the reaction. The severe lumbar pain requires 1/6 gr. morphine. Tachycardia is prevented by giving a 15 gr. effervescent tablet of triple bromides orally ½ hour before treatment. Urticaria usually leads to nothing serious. Adrenalin chloride, 0.5 to 1 c.c., will cause the wheals to involute rapidly. For medical shock, keep the patient warm and give intravenous injections of adrenalin chloride, 1 to 2 c.c.

The patient should be instructed that if any unusual symptoms occur after treatment he is to communicate with the treating physician. The nausea and vomiting experienced a few hours after injection can be benefited only by going to bed and drinking several glases sof water. Chills and fever may be prodromal of the Herxheimer reaction or of the ninth day erythema of Milian, or the beginning of a hepatic disturbance. Bed and rest are the best treatment. If malaise and headache persist, whether or not accompanied by chills, fever, nausea and/or vomiting, liver function tests and blood studies are advisable. Diarrhea is of little significance. Paregoric and bismuth subcarbonate are usually effective.

The encephalopathies are most serious and are usually fatal. No treatment is of known value.

As soon as jaundice is detected, syphilitic treatment is interrupted. Fats are contraindicated. Large amounts of water are given. Intravenous injections of calcium gluconate have aided in relieving the symptoms. Liver function tests should be repeated every week until the patient is well.

The erythemas usually respond quickly to intravenous injections of calcium gluconate. Any eruption should be evaluated by a dermatologist before further arsenotherapy is given. The eczematoid forms of postarsphenamine dermatitis respond readily to simple antipruritic applications. The vesicular, follicular and exfoliative dermatides are difficult problems to handle.

Measures found useful: Bland baths and olive or mineral oil rubs. Injections of calcium gluconate daily. Phenol, 1 to 3%, added to the oil helps to relieve itching. Gentian violet, 2½% in alcohol, or sulfathiazole ointment, 5%, should be used in secondary infections. Soap and salt enemas are preferable to laxative drugs and for diarrhea paregoric is preferable to bismuth.

Thrombocytopenic purpura and the simple purpuras respond promptly when the arsenical drug is withdrawn. Hospitalization is imperative for aplastic anemia and granulocytopenia. Daily injections of 10-20 c.c. of pentose nucleotide and transfusions improve chances for recovery in granulocytopenia. Transverse myelitis and polyneuritis are rare but serious reactions. Complete rest and injections of thiamine chloride are advised. Recovery is generally incomplete and residual function is poor.

After recovery if the patient has early syphilis, is pregnant or shows late destructive lesions, then resumption or continuation of treatment is imperative, if the severity of the reaction does not outweigh the importance of treating syphilis. If the patient is over 50 years of age with latent syphilis, the resumption of treatment is unwise and unnecessary in the absence of signs of syphilitic activity. If the patient is under 50 and if the severe reactions can be controlled, resumption of treatment is desirable. If the arsenical compounds cannot be tolerated, bismuth and mercury should be substituted. Regardless of symptoms, when blood dyscrasias, exfoliative dermatides, nervous symptom injuries or recurring hepatic disturbances are encountered, then resumption of treatment with arsenical compounds should not be considered.

Where resumption of treatment is advisable, jaundice has subsided and liver function tests are normal, one may resume therapy with the arsphenamines or mapharsen, beginning with a small dose, and if liver function tests do not prohibit, increase gradually until routine therapy is reached. When milder reactions occur, one may continue treatment with the aid of adjuvants. If resumption or arsenotherapy is not feasible one must resort to bismuth therapy, alternating with mercury ointment inunctions, or even resorting to induced-fever therapy where permissible.

OBSTETRICS

HENRY J. LANGSTON, M.D., Editor, Danville, Va.

VAGINAL ANTISEPSIS DURING LABOR

PUERPERAL INFECTION is still the leading cause of maternal death in the United States. There were 24 maternal deaths per 10,000 live births in 1915; 17 per 10,000 live births in 1940. This is thought to be due in part to the introduction of chemotherapy. The use of vaginal antiseptics may have an influence.

So says Mays¹ in beginning an essay advocating and describing minutely the technique of his favorite antiseptic conduct of labor.

At the time of the vaginal examination, the pelvic floor is depressed with two fingers and the solution poured into the vagina; then by moving the fingers over the vaginal mucosa the solution is worked into its folds and around the cervix. This technique is used whenever a vaginal examination is done and for the instillation performed at the time of delivery. It is often repeated if delivery is prolonged. During labor we use the asepto vaginal syringe which is ½ in. in diameter and 7 in. long with a circular mark to indicate the capacity of 3 drams. The one used during the postpartum period and in some gynecologic cases is only ½ in. in diameter.

The pubic hair is shaved off, and the perineum and adjacent areas are cleansed with green soap and water; the labial folds, the genitalia and suffounding field sprayed with a 4 per cent aqueous solution of mercurochrome. The labia are then separated and the syringe, filled with the antiseptic solution to the mark, is inserted carefully allowing the point of the syringe to pass along the floor of the vagina until it reaches the vault. The labia should be held close together around the syringe with the thumb and fingers of the gloved hand, the bulb is pressed causing the fluid to enter under pressure and insures its coming in contact with the entire vaginal mucosa. The instillations should be repeated every 12 hours.

Rectal examinations may be done immediately, but vaginal examinations, and especially any operative interference, should be postponed for at least one hour. Whenever a vaginal examination is done the perineum should be carefully cleansed with moist sponges, then dried with a sterile towel and sprayed with the aqueous solution. Before inserting the fingers into the vagina the labia should be separated with gloved hand and the introitus sprayed. At the time of delivery, the perineum is sprayed with the acetone-alcohol solution of the antiseptic.

1. H. W. Mayes, Brooklyn, in Western Jl. of Surg., Obs. & Gynec., May.

Postpartum the perineum should be sprayed at least once daily and two drams of the aqueous solution instilled for five or six days. If the patient is to have an elective cesarean section or any gynecologic operation vaginal instillations should be made before and on the morning of operation.

The adequacy of this protection is shown by the fact that we have had but one death from puerperal sepsis in the last 20,048 cases, none in the last 11,000 vaginal deliveries.

SURGERY

GEO. H. BUNCH, M.D., Editor, Columbia, S. C.

THE PREVENTION OF POST-OPERATIVE EMBOLISM

GENTLENESS in the manipulation of abdominal viscera at operation, sharp dissection of tissue, local application of the sulfonamide drugs in wounds, insistence upon deep breathing with frequent change of the patient's position in bed with early exercise of the lower extremities-all these are factors in preventing postoperative thrombophlebitis. Snell says that in the Mayo Clinic embolism has been the cause of death in 8 per cent of the cases coming to autopsy and Gibbon finds in a series of cases collected by him that 8 per cent of all postoperative deaths are from pulmonary embolism. Ochsner and DeBakey state that of every 17 to 20 patients with clinical evidence of thrombophlebitis one will die of pulmonary embolism.1 Sudden death from this cause of a patient who is apparently convalescing normally after operation is tragic in the extreme, for it is both unpredictable and unpreventable.

After pulmonary embolism has occurred there is no effective treatment. The mortality rate from the surgical removal of emboli from the lungs is prohibitively high. Intravascular thrombosis precedes embolism and after a thrombus forms the administration of an anticoagulant-e.g., heparindoes not lessen the incidence of embolism. Ochsner is convinced that the only way to materially lessen the mortality rate from pulmonary embolism after operation is in cases of thrombosis to ligate the vein proximal to the thrombus and in this way mechanically block the passage of emboli into the general circulation and into the lungs. Krotoski in 1937 gathered a series of 48 cases in which even the vena cava of these desperately ill patients had been ligated with encouraging results.

Ochsner distinguishes between thrombophlebitis, in which there is a true inflammation with fever, leucocytosis and local tenderness; and phlebo-

^{1.} Phlebography-DeBakey et al., Ir. A. M. A., Nov. 20th,

thrombosis not of inflammatory origin and in which clinical symptoms are much less severe. In the first of these conditions there is a white clot which is so firmly attached to the inner surface of the vein that emboli are rarely freed into the blood stream. However, due to stasis in the blood stream from the thrombus, a red coagulation clot which is soft and easily detached may form in the vein proximally. In the second condition, where there is no inflammation of the vein, the clot is of the red variety which is loosely attached to the vein wall and is a frequent source of emboli.

Ochsner and his coworkers advise that 20 c.c. of 35 per cent diodrast solution be injected into the dorsal vein of the foot as a contrast medium to determine by x-ray study what branches of the venous tree are blocked by thrombosis and in this way know rather than guess where ligatures should be applied. The ligation of large veins, especially in people who are already ill, is not without danger. Without definite knowledge of the site and the extent of a thrombus ligature of the effected vein cannot be intelligently done and when done may not protect the patient from embolism.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

IMMEDIATE TREATMENT OF SEVERE WOUNDS

It is proposed in an article1 which appeals to us that an adequate simple sterile compression dressing be applied to a severe burn or other large surface wound immediately, at or near the scene of injury. The persons administering the treatment remove the top covering and put on the caps and masks taken from the pack. They then apply the patients mask. Their hands are washed in soap and water followed by aldohol. The patient is given morphine sulfate 1/4 to 1/2 grain and the first unit of plasma and the chemotherapy are started. The wounds are exposed by cutting away clothing as indicated, and keeping the patient warm. The plywood frame which opens to form a splint is then removed from the top of the pack. The draw string is pulled from the end of the muslin bag, presenting two finger individualizers.

The pack for compression treatment of all extensive wounds and burns contains 16 sterile pads 9 inches square, each pad containing 8 ounces of grade-1 mechanic's waste, covered by one thickness of 44-40 mesh gauze overlying two layers of coarse gauze. Four of the dressing pads have a 5-in. x 5-yd. roller bandage of bias-cut stockinet anchored to them; two operating caps and three face masks.

The final container is of tin 8 x 8 inches. Mechanic's waste, grade-1, can be bought in Chicago for 9 and a fraction cents a pound. Neither absorbent cotton, waste cotton nor surgical gauze can compare with mechanic's waste in giving resilience to compression dressings. It is a fair absorbent and is readily sterilized.

The first pad is lifted off by its attached bandage and placed on one extremity of the wound, subsequent pads placed side by side and fixed with the bandage under moderate pressure. The fourth pad will have another bandage and so on until the package is used up. Other packages are obtained as needed for complete coverage of wounds in compression. The splints from the frames may then be applied without padding.

The fine mesh 44-40 gauze is ideal for contact with the wound. If loose gauze is placed on the wound, it should be saturated with isotonic solution of sodium chloride. Ointments, dyes, topical antiseptics and the like are harmful in certain instances and superfluous in most. Chemotherapy given orally or intravenously is essential.

The oval pads of the individual dressings are designed to have sufficient firmness to collapse injured vessels and stop hemorrhage but to have ample resilience to permit circulation beyond the wound and to the tissues of the wound through the uninjured blood vessels, thus obviating the use of the tourniquet with its hazards.

These dressings should remain undisturbed unless there is information on the diagnosis card, or otherwise, of gross debris, which would necessitate cleansing, debridement and subsequent reapplication of a compression dressing. In a proper surgical unit this is done under aseptic conditions with full protection against respiratory contamination and with provisions such that adequate surgical care can be complete. Even in the case of lacerated wounds it is better to make x-ray search for foreign bodies and leave the dressings intact, if too long an interval has elapsed for safe surgical intervention, until indications arise for their removal.

In any case, treat the patient in a manner to bring him through the critical period alive, leaving well enough alone. See to it that the blood volume is kept up, that unavoidable losses of blood plasma or cells are replaced; prevent or treat shock, and promptly administer adequate chemotherapy. Keep an accurate record of the fluid intake and output and adjust the intake of fluid accordingly.

TREATMENT OF ACUTE AND CHRONIC TRAUMATIC TEMPOROMANDIBULAR ARTHRITIS

THE JOINT permits motion in all directions except axial rotation. It hangs loosely in its ligaments when at rest. Subluxation is a self-reducing incom-

^{1.} Col. J. L. Gallagher, M. C., U. S. A., in Jl. A. M. A., Nov. 13th.

plete dislocation, first described by Sir Astley Cooper, often associated with traumatic arthritis, usually pain and a history of trauma. Our1 experience with the injection treatment has been largely confined to subluxation of the temporomandibular joint. A sufficient number of joints elsewhere in the body has been injected to prove that this type of treatment is of value in other joints having relaxed capsules and ligaments.

Subluxating joints are not rare. A simple and

efficacious treatment is described.

The indications for treatment are 1) pain, remote or local; 2) luxation or subluxation; 3) a clicking or grating noise, or both: 4) locking of the mouth in either the open or closed position. Unilateral subluxation should be treated bilaterally

to balance the action of the jaw.

The treatment consists of putting a few injections of a sclerosing agent into the cavity of the joint, usually on both sides, using a 1-c.c. tuberculin syringe and a 26-gauge needle 11/2 inches long. The skin over the joint is rubbed brickly with an alcohol sponge; the tip of the index finger of the left hand, dipped in alcohol, is used to palpate the structures over the joint. The patient is then asked to open the mouth until the head of the condyle leaves the glenoid fossa. Then the needle is inserted inward, forward and upward into this cavity till it strikes the inner table of bone at a depth of from 2 to 3 cm.

The needle is withdrawn 1/2 cm. and 6-8 drops of a solution of sodium psylliate is injected. This procedure is repeated on the opposite side.

The injections should be made every 2 or 3 weeks till sufficient fibrosis has developed to effect a cure. In some cases there is need for but one injection while in others as many as from four to six may be required. The second or third injection is much harder to make because the head of the condyle now is in close apposition to the glenoid fossa and does not leave it when the mouth is open. Patients suffering most from pain, subluxation and clicking usually obtain the best results; most relief is in patients with greatest degree of local reaction after injection.

From 20-30 minutes after the injection there may be discomfort. We always give 10 to 15 grains of aspirin at the time of the injection with instruction to take more later if necessary. In only two out of the first 180 cases was an opiate necessary. A 0.2% solution of eucupine in oil2 and a 5% aqueous solution of sodium psylliate3 are mixed by drawing them out in equal parts with the hypodermic syringe through the rubber stopper of the bottles and mixing just before injecting.

For a fairly common, painful and disabling condition a treatment is described which can be readily carried out by any doctor in his office.

GYNECOLOGY

SOME NEGLECTED ASPECTS OF OFFICE GYNECOLOGY

THE AVERAGE WOMAN is ignorant of her sex anatomy and physiology. The author1 discusses these factors freely with every patient. Almost every patient voices deep appreciation for her first clear understanding of these matters. The vagina is described as a collapsed balloon of elastic tissue in folds, the normal and pathologic positions of the cervix and increased activity of the cervical glands as exemplified in pregnancy.

In order that a douche might remove all of the vaginal secretion the vagina must be distended. In douching she must use the bathtub and be in the semilithotomy position and use a container suspended two or three feet, having a rubber tube attached of sufficient length with a metal clasp, and a hard-rubber, slightly concave douche tip having a bulb-like end with a row of holes around the periphery. The tip is to be inserted in an oblique downward direction. The thumb and index finger are used to close the labia over the douche tip to prevent the outflow of water. The clasp is opened, allowing water to flow into the vagina until a sense of pressure is felt, clasp is closed. After 15-20 seconds the labia are released; repeat until the prescribed amount of solution is used up.

A teaspoonful (level) of boric acid or one or two tablespoonfuls of vinegar to a quart of comfortably warm water has proved quite acceptable. For resistant conditions merphenyl borate (2 tablespoonfuls to a quart of water) has been prescribed with excellent results. The medication in the douche is often of less importance than the technic.

Anal cleansing must be away from the introitus. Urethral cleansing by absorption as in the use of a blotter.

Many conditions which bring patients to the gynecologist are produced primarily by emotional factors, more often in persons with subconscious drives. Frigidity and related disorders, anxiety developing as the result of marital and sexual problems, fear of pregnancy and its relation to contraception, problems in sterility and the emotional factors in pregnancy, particularly in relation to nausea and vomiting are but a few problems the gynecologist shares with the physician. To uncover emotional conflicts based on fears, frustrations and basic character problems is difficult and time-con-

^{1.} L. W. Schultz & Walter Shriner, Chicago, in *Il. Fla. Med.*1. Mash., Nov.

2. Made by Rare Chemicals, Inc., Flemington, N. J.

3. Made by G. D. Searle & Co., Chicago, and marketed under their trade name of Sylmsol.

^{1.} L. H. Biskind, Cleveland, in Ohio State Med. Jl., Nov.

suming. In many instances, with some additional training the physician can act as his own psychiatrist. Even brief and superficial psychologic therapy may produce far-reaching therapeutic results. Eradication of many superstitions surrounding menstruation and the sexual life of women will help the present and ensuing generation.

In giving premarital advice an examination of the female organs is required. The patient should be told that such an examination, either vaginal or rectal, is not painful. Any abnormality which might lead to interference with the normal sexual act should be corrected if possible. Those that might interfere with child-bearing should be noted. The patient should be advised of their presence but she should not be frightened by pointing out to her all the dangers attendant on childbirth. Finally, all prospective brides must have blood tests made.

Women wish instruction in the art of coitus, although few will ask the physician to explain this to them. Dispel all these fears before marriage. At least two visits are required; if the patient desires the diaphragm type of contraception another office visit is essential.

No discussion of premarital advice should be completed without a conference with the prospective husband. He should understand that in women the length of time required to reach an orgasm is far greater than in men and requires a much longer period of stimulation; the physiologic basis of menstruation should be briefly explained to him.

The only satisfactory means of contraception is the diaphragm, with spermicidal jelly. Use fitting rings, the largest size which will fit beneath the cervix posteriorly and behind the symphysis anteriorly and hug the lateral walls of the vagina, so that of its presence in the vagina the patient is totally unaware. The patient is instructed in the method of applying the jelly to the rim and the concavity of the diaphragm, how to insert both manually and with inserter, the amount of cream to cover the convexity of the diaphragm, as to retention of the diaphragm after coitus until morning, the proper method of removal, and to take a cleansing douche.

PRIMARY DYSMENORRHEA

Many such patients change from one physician to another and obtain a separate diagnosis from each. The emphasis on organic or functional defects creates a poor mental attitude. Many of these patients approached the menarche already conditioned for a serious ordeal by overzealous relatives and friends.

The first objective in treatment should be to assure the patient that she is absolutely normal and to explain in simple terms the basic physiology of menstrual distress. The second therapeutic objec-

1. J. H. Randall & L. D. Odell, Iowa City, in Jl. A. M. A., Nov. 20th. tive is the relief of pain. Usually this can be done with simple analgesics, particularly after the patient realizes the nature of her complaint. Prescriptions 1 and 2 are for the more severe cases. As a rule it is necessary only to relieve the pain for the first and second days of the menstrual period. If the patient can be carried along until she has borne a child or until the age of 30, spontaneous cessation is likely. Encouraging results can be obtained in such patients with almost any kind of glandular product (even with placebos) owing to their psychotherapeutic effect.

Women with primary dysmenorrhea have no consistent anatomic lesions or endocrine deficiencies. Ovulation and a nulliparous cervix are two essential factors in producing primary dysmenorrhea, and they result in uterine distention which stimulates contractions of large enough amplitude to produce cramping pain. The suppression of ovulation by estrogens to produce painless menses is of experimental interest but of questionable value and possibly dangerous.

DENTISTRY

J. H. GUION, D.D.S., Editor, Charlotte, N. C.

ANTHROPOLOGICAL STUDIES IN DENTAL CARIES

THE AMERICAN MUSEUM OF NATURAL HISTORY in New York contains one of the richest skull collections in the world. Various races and nationalities, peoples of all continents, are represented. A study has been made¹ of 32 of these geographical groups—4,000 skulls.

The number of teeth remaining in each skull were counted, with careful examination of each tooth for caries. Many teeth were found to have been broken or lost from the jaws after death. Because of the factor of posthumous damage to the skulls, it was decided to ignore all missing and fractured teeth in the count. Only the 38,300 unbroken teeth found in or with the skulls are included in the report. No dental restorations were found in these ancient and primitive groups.

The second object was to learn why the teeth of certain individual skulls or groups of skulls were

^{1.} Meyer Klatsky & J. S. Klatell, New York, in Il. Dental Research, Aug.

more susceptible to dental caries than others. Special attention was paid to the state of development of the jaw bones and the various points which serve as the origin and insertion for the muscles of mastication. The shape of the palate was noted; the anatomy of individual teeth was studied, with particular attention paid to the presence and extent of attrition.

Percentage of Carious Teeth Name of Geographic Group Egypt 3.9 China 5.0 1.7 Mongolia 5.1 Siam 6.8 Asia Minor 4.3 Hungary Italy Yugoslavia 34.0 Poland 9.1 Russia 3.5 Greece 6.3 Germany 22.0 Austria 9.2 Honduras 5.5 Porto Rico 4.2 Venezuela 9.6 Peru 8.1 Colombia Bolivia Chile 3.8 Mexico 4.6 Oregon 1.1 Washington 0.9 Utah 4.6 New Mexico 3.9 California 1.6 Alaska & Aleutians 0.4

The most ancient skulls represented in the collection came from Egypt. The high state of civilization achieved in ancient Egypt may be a consideration here.

The more primitive groups tended to have a lower incidence of dental decay than the more civilized peoples. Anatomic studies of the masticatory apparatus of the groups show that the jaw bones of the primitives were better developed and the teeth evinced greater attrition than those of modern peoples. There is an inverse proportion between masticatory function and the incidence of dental caries. Lack of dental function is an important factor in the causation of caries among modern peoples.

We are moved to comment:

The skulls studied are all ancient. It seems reasonable to assume that they do not represent the average for the time and place, but only those

most resistant to the processes of decay; also that most resistant skulls would have most resistant teeth.

It would be hard to reconcile certain of the findings with each other. Koreans and Chinese are considered more nearly the same in civilization than Koreans and Japanese. No one would attempt to maintain that Yugoslavia has a higher or older civilization than Poland, Germany than Austria, Venezuela than Colombia. Is there any reason to believe that the aborigines of Utah and New Mexico were very different in feeding habits from those of California. Washington and Oregon?

DIABETES INSIPIDUS

(W. G. Wyllie, in Proc. Royal Soc. of Med., Sept.)

The results of pitressin therapy in five cases in children were extremely erratic. In one ½ c.c. of ordinary solution of pitressin (20 internat. units per c.c.) intramuscularly daily keep intake and output almost in natural limits and without undesirable side-effects such as colic. The same solution in the other four cases was ineffective except in doses which produced unpleasant reactions.

Attempts have been made to produce a delayed-action compound. The most promising is pitressin tannate in oil, 5 internat, units per c.c. In four of the cases a small daily intramuscular injection of 4 minims was more effective than larger doses on alternate days which also are apt to produce unpleasant reactions. These children if uncontrolled will drink the contents of flower vases and even of hot-water bottles if access to the water-tap is made difficult.

SYMPTOMS WHICH SHOULD MAKE YOU THINK OF CANCER

(Bul. Am. Soc. for Control of Cancer)

Certain danger signals pointing to the possibility of cancer should be investigated immediately by a physician. They are:

- 1. Any lump or thickening, especially of the breast.
- Irregular bleeding or discharge from any of the body openings.
- 3. Any sore that does not heal.
- 4. Persistent indigestion.
- 5. Sudden changes in the form of growth of a mole or wart.
- 6. Hoarseness persisting for more than two or three
- 7. Pain.

To this list is added-

8. Any symptoms attributed by the patient to "piles."—Editor S. M. & S.

Agreeable Way of Giving Paraldehyde (N. Y. Physician)

Saccharin	.1 Gm.
Oil of Bitter Orange	.8 c.c.
Oil of Cinnamon	.4 c.c.
Paraldehvde	24.0 c.c.
Alcohol	50.0 c.c.
Glycerin, a sufficient quantity to make 100	0.00 c.c.

Dissolve the saccharin in the alcohol, add the paraldehyde and the oils and then sufficient glycerin to make the product measure 100.0 c.c. Filter. Average dose 4 to 12 c.c.

HOSPITALS

R. B. DAVIS, M.D., Editor, Greensboro, N. C.

WHERE ARE YOUR INTERNES?

ABOUT 1910 a campaign was begun to improve the teaching facilities and methods of Medical Schools. Those responsible for this campaign are honest and unselfish physicians. However, their enthusiasm passed on to their successors came to have an admixture of selfishness and egotism. After 30 years the fruits borne are some improvement in the science of the individual doctor, at the cost of deterioration mentally, morally and physically in the graduate in medicine of today. The writer wishes to state emphatically that in his opinion, this condition is due entirely to trying to run the medical schools and dictate in detail the policies by remote control, largely from Chicago. The ninety-and-nine of us have been unconcerned while medical schools have been closed and the number of medical students reduced. We are guilty of sins of omission and sins of commission. We have acted too much with a selfish and egotistical spirit. Let him who reads help organize a campaign for fairness to the pre-medical and medical student.

What can we do about this condition? First, let each medical society appoint a committee of one to three who will investigate and report back in 60 to 90 days the condition of medical education in the United States. When the writer began to investigate these things a few short years ago, he discovered many thing that opened his eyes. One of these was that of medical education domination by a very few medical men. The wishes and recommendation of the president, the dean and the faculty of any medical school had very little to do with the systems they were obliged to follow in accepting and teaching the student to become a doctor. If all physicians in the United States were familiar with the procedure now in vogue for a young man to become a doctor they would rise up in arms and demand a change. I therefore plead for an investigation into the matter of medical education in the United tSates. Why subject our people to such an alarming scarcity of doctors.

The question in the title of this paper has already been answered. Your internes are selling insurance, working in clothing stores or cotton mills, teaching schools or practicing law or elsewhere outside the profession they should have spent their life in.

The hospitals can do a tremendous lot of good by appealing to the A. M. A. and others to reorganize their premedical and medical requirements: They are not satisfactory to any one with whom they have been discussed by me. This condition of affairs has prompted the United States

Government to take control of a number of medical colleges at a tremendous cost to the taxpavers. It has further been largely responsible for the great effort to socialize medicine. I have heard a trustee of a medical college say that he was about to become converted to the Wagner Bill because of the conduct of a few dictators in the medical educational world. Socialized medicine would result in political medicine. If it comes, the medical profession is largely responsible. But, as in all other great political upheavals, a very few will have to bear the blame. These we all know, and it is incumbent upon the many to prevent such a catastrophe. I solicit your earnest cooperation in trying to remedy a condition which shall eventually eat the heart out of the medical profession.

THE USE OF PENICILLIN SODIUM IN THE TREATMENT OF SULFONAMIDE-RESISTANT GONORRHEA IN MEN

(J. F. Mahoney et al., U. S. Marine Hospital, Staten Island, N. Y., in Amer. II. of Syphilis, Gonorrhea and Ven. Dis., Sept.)

Of 75 young adult male patients without illnesses other than gonorrhea, with one exception all had failed to respond to sulfonamide therapy, and this one showed idio-syncrasy to that class of drugs. Of the series 34 also had failed to respond to one or more combined sulfathiazole-hyperpyrexia treatments. Duration of the disease 10 to 330 days, average 45 days.

The routine therapy covered a period of 45 hours and consisted of an injection in the gluteal muscles of 10,000 Florey units of penicillin sodium every three hours, night and day. Distilled water, 2 ml. for each 10,000 units, was used as the solvent, and a 22-gauge needle, 1½ inches in length.

The word cure is used to mean freedom from all clinical evidence of infection, and negative spread and culture findings in secretions collected on at least three different days following the completion of treatment. On this basis 74 of the 75 responded in a satisfactory manner and one was a therapeutic failure.

One patient developed a purulent urethral discharge after being symptom-free for eight days following release from the hospital. A second patient developed evidence of epididymitis 14 days after discharge. It has not been possible to establish the gonococcus as the cause of this development.

The large majority of patients experienced a recession of all clinical symptoms within 48 hours following completion of treatment. Culture findings became negative after 24 hours of treatment and remained negative throughout the observation period.

PREFRONTAL LOBOTOMY IN CHRONIC SCHIZOPHRENIA (A. E. Bennett et al., Omaha, in Jl. A. M.A., Nov. 27th)

The operation of prefrontal lobotomy for certain mental disorders was introduced by Egas Moniz of Lisbon, Portugal, in 1936.

Dr. J. G. Lyerly, of Jacksonville, Fla., has done pioneer work in this field.

In certain chronic cases of schizophrenia, in the light of present knowledge, lobotomy should be continued in order to restore many disabled persons to social usefulness. This operation has effected a good social recovery in four cases of aggressive paranoid schizophrenia. One catatonic type failed to improve.

SURGICAL OBSERVATIONS

OF THE STAFF
DAVIS HOSPITAL
Statesville

HYPERTHYROIDISM

PERHAPS the best of the classifications of goiter is as follows:

DIAGNOSIS

The hyperthyroid patient sometimes goes through a cycle with a phase of no toxic symptoms. In almost every case it is possible to palpate an enlargement of right or left lobe, of isthmus, or of all the parts. Usually the pulse is rapid. Cabot noted loudness of the first heart sound at the apex and metallic reverberation. There is usually some enlargement of the heart to the left, in many cases auricular fibrillation.

In a short while there is cardiac distress which, untreated, becomes greater as time goes on. This serves to emphasize the importance of correcting the condition early. A b. m. r. determination made on three successive days sheds much light. The patient lying with the back of the neck against a pillow, the head a little high, so that the trachea is pushed forward, even small adenomas can usually be found.

A search for the other diagnostic symptoms of hyperthyroidism will usually make the diagnosis. It should be explained to the patient that a little time is required in order to make the test complete and accurate.

PREPARATION FOR OPERATION

Any toxic manifestations should be cleared up before an operation is even contemplated. Sometimes a long period of preparation is necessary. No patient for thyroidectomy should be hurried into operation. Only when the patient has reached the maximum improvement is it usually advisable to resort to surgery. Unless the basal rate is down there is always danger of a post-operative crisis, and even after proper preparation some such danger impends.

One great danger where patients do not have an operation at the proper time after beginning preparatory treatment is that they may become iodine-fast; *i.e.*, the iodine cease to control the toxic symptoms.

The surgical treatment of goiter has been so improved that now the mortality rate has become almost nil. This, of course, is largely due to the fact that in addition to an accurate diagnosis, the most careful preöperative treatment is carried out until the maximum improvement is obtained and only then the patient considered ready to undergo an operation.

THYROID CRISIS .

- 1. Simple colloidal goiter. (A hyperplasia of the normal tissues of the thyroid gland.)
- Adenomatous goiter, with or without toxic symptoms.
- 3. Exophthalmic goiter.
- 4. Thyroiditis.
- 5. Malignant growths of the thyroid gland.

Adenomatous goiter, not toxic at first, when it becomes toxic causes the rapid nulse, nervousness, tremors, increased basal metabolic rate, increased perspiration of that state, and is usually diagnosed very readily if one is on the alert.

The exophthalmic type of goiter usually causes enlargement of the thyroid gland, the eyes become more and more prominent, the constitutional symptoms pronounced.

The thyroid gland is subject to ordinary types of inflammation, and to the development of malignant growths which may or may not be associated with some of the other types of goiter.

Hyperthyroidism may occur in children of five or six years of age (our youngest hyperthyroid a girl of six).

Just what produces hyperthyroidism is unknown. What we do know suffices to enable us to treat the various diseases of the thyroid gland intelligently.

In young children, the colloidal type of goiter is amenable to small doses of iodine, 10 milligrams weekly. In simple colloidal goiter a serious hyperthyroidism may supervene.

In a case of adenoma of the thyroid gland the administration of iodine may set up trouble.

The internal secretion of the thyroid gland, thyroxine, when secreted in excess, causes symptoms which are usually correctible by using Lugol's solution or sodium iodide, or Organidin diluted in 5% glucose solution by vein. The use of iodine is beneficial only for a certain length of time and then when it is no longer able to control the thyroid symptoms the patient's situation is critical in the extreme. Iodine should only be given for the purpose of preparing the patient for operation.

Nodular adenomatous growths of the thyroid gland without toxic symptoms contraindicate the use of iodine. Iodine in such a case may so activate the gland as to give rise to hyperthyroidism.

Hyperthyroidism is a disorder of secretion of the thyroid gland, qualitative and quantitative.

Simple colloidal goiter may be removed without any special preparation.

In toxic goiters careful preparation is necessary and here our principal drug is iodine, by mouth or by vein—by the latter route with great care.

The toxic thyroid with hyperthyroid symptoms requires removal of the major portion of the gland to cut down the excess of internal secretion. The

surgery of the thyroid gland has been so carefully worked out over a long period of years as to give results truly amazing. Neglected cases, or cases in which iodine has been given over too long a time have a far less favorable outlook.

Once in a while, however, even the best prepared patients will develop what is known as a thyroid crisis, manifested by rapid pulse, a great increase in nervousness, an exaggeration of all the symptoms common to hyperthyroid patients. A thyroid crisis usually comes on post-operatively but may occur before the operation is done. It is usually ushered in by fever, rapid heart action, and nervous disturbance which may lead to a semi-comatose condition.

Prompt and proper treatment usually relieves a crisis, often prevents fatal damage to the heart or the central nervous system, and death by acidosis or by cerebral and pulmonary edema due to lowering of the plasma protein.

The essentials of treatment are:

- 1. Glucose (5%), 1000 c.c. intravenously two to three times each 24 hours.
- 2. Oxygen by inhalation.
- 3. Transfusions of blood plasma.
- 4. Aspirin in doses of five to 10 grains.
- 5. Alcohol sponging of the arms and legs.
- 6. Quinidine in cases of auricular fibrillation.
- 7. Morphine given freely.
- 8. Liver extract, especially the highly refined

type, such as Reticulogen.

- 9. Temperature reduction by ice bag to the head and over the heart, sponging of the limbs with water or alcohol, a Rehfuss tube passed through the nose into the stomach and cold water instilled and later withdrawn, or by rectal instillations of cold water.
- The intravenous administration of sodium iodide or organidin. We prefer organidin.
- 11. Acetyl choline is useful in iodine-fast cases.
- Whole blood transfusions in some cases, although as a rule transfusions of plasma are sufficient.

In hyperthyroid conditions the body uses up large quantities of food. Where the patient cannot take food very well glucose and, also, plasma given intravenously will help to tide the patient over.

Everything about a thyroid patient should be quiet, pleasant and cheerful. Visitors should not be permitted, except nearest members of the family, and they for very short periods. The room should be kept at about 65°. Everything possible should be done to tide the patient over the critical two or three days until the body has gotten rid of the toxic products that caused the crisis.

Very often within a very few days after the crisis the patient feels almost well. We must remember though that prolonged treatment over possibly many months may be necessary before a patient may reach the maximum improvement.

An electrocardiogram now and then is in order. A flat plate of the chest may be advisable at some time. Routine examination of the urine and blood and blood pressure is indicated. No vitamin deficiency should be allowed to develop.

CLINIC

Conducted by
FREDERICK R. TAYLOR, B.S., M.D., F.A.C P.,
High Point, N. C.

On Nov. 15th, 1935, a 30-year-old man came for examination, saving that he had been unable to work since he was 14 years old, at which age he worked in a cotton mill. His chief symptom was that he had lost the use of himself all over, especially of his arms. At 14 he noted that his hands were drawing and he had difficulty in pick. ing up objects. Also his mouth and tongue seemed involved so that he had difficulty in talking. That, however, seemed to clear up in 4 or 5 years, but his arms got worse and his legs became involved. It was 4 or 5 years after the process started in his arms that he first noted difficulty in the use of his legs. Since then, the trouble has progressed steadilv in both his arms and legs. He can still feed and dress himself, but is clumsy at it and finds it difficult. He can still walk, but it is hard for him to get up out of a chair. About a year ago he first noticed that his left evelid was drooping somewhat. He has no pain anywhere, and has noted no loss of sensation or paresthesia; but when he sits in one position long, he gets quite stiff in his muscles. There is no history of syphilis, and his personal history otherwise throws no further light on his trouble.

His family history is of special interest, in that he tells us that his father has the same kind of disease as he has, though not in as severe a form. The father's trouble dates back only about 10 years, hence is of shorter duration. One brother is in the State Hospital at Morganton, believed to have a traumatic psychosis (cerebral trauma). The patient married at 21, and his wife left him two years later, as she did not know of his condition when she married him.

Physical examination showed his height to be 5 ft. 5½ inches, weight only 99¾ lbs. His temperature was 99.4° F., pulse rate 84 (pulse weak), respiration rate 20, B. P. 112/84. He had moderate ptosis of the left eyelid. He says he can't smell well. His pupils reacted well to light. He showed some dynamic nystagmus. His hearing was fair, but he states that he had a discharging left ear at

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SOUTHERN MEDICINE & SURGERY

Official Organ

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

The Best of Wishes for Christmas

A GOOD MANY Christmases ago I sent a card to a lovely old lady, the widow of a doctor, wishing her A Peaceful Christmas. She was a gentle and culturded product of Old Virginia at her best. When you were invited to her Appomattox County home she watched at her window and saw you come through the Big Gate; and by the time you reached the Little Gate, there she was to take your hand between both hers and bid you welcome and tell you what an "honour" you were doing a lonely old lady. In due course there came a rose-scented note saying: "How fitting. And how absurd it would have been to wish an old lady—her world toppled about her, her life's partner long gone—A Merry Christmas."

Never since that distant day have Mrs. Horsley's words come back to me with so much of poignancy.

So, at what, in ordinary course, would be a Glad Season; when now hardly a Christmas dinner but a vacant chair and apprehension that it may never again be filled—I wish, I pray, I work for all, for all future time—

A Peaceful Christmas.

TRI-STATE MEDICAL ASSOCIATION WILL HOLD MEETING FEBRUARY 28th-29th AT CHARLOTTE

THE MEETING FOR 1943 of the Tri-State Medical Association was skipped. This was in imitation of the action of the American Medical Association, and on well-nigh unanimous vote of the present officers and ex-presidents of the Tri-State.

Now it is the unanimous vote that we hold in February our 44th meeting in 45 years.

The program is shaping rapidly. The officers, especially the ex-presidents (who are ex-officion members of the Council) are getting responses to their invitations into our fellowship, truly remarkable when we take into consideration the fact that the group from which, normally, most of the accessions to our ranks would have come has almost wholly been absorbed into our Fighting Forces.

It is especially gratifying to know that, despite these handicaps, we are to have a large and in every way successful meeting.

Each Fellow will receive another communication directly from the office of the Secretary within the next week.

Be making your plans now to attend and be inviting your neighbor doctors, especially those who have recently become your neighbors, to come along with you.

DOCTOR WALTER WOOTEN COUNCIL

BY PRIVATE COMMUNICATION news first came of the death at Juneau, Alaska, on November 13th. of Dr. Walter Council, the famous "Bull" Council of Carolina and Virginia football fame.

First at Carolina, later at Virginia, his scholastic record was of the same high character as his athletic, and in far-away Alaska his achievements as a doctor, as a citizen, and as a sportsman amply realized the expectations based on the record made in the educational institutions in which he was developed.

The Daily Alaskan Empire said editorially:

Alaska has lost a splendid physician, a worthy public servant and a good friend in the death of Dr. Walter W. Council, genial and able Commissioner of Health for the Territory, friend in need to many an ailing Alaskan, and a hunter and fisherman who will be remembered on many a trip to come.

"Doc" Council had been a familiar figure to all Alaskans for 37 years. He came to Alaska as a youth of 24 in 1906, less than a year after he was graduated with honors from the University of Virginia's medical school, and with a degree of Doctor of Philosophy from the University of North Carolina. He could have made a big niche for himself Outside—but he chose Alaska and Alaskans can thank him for 37 years of service to humanity in the Northland which has become a better place to live, because of this.

For the last 10 years he had steered the course for the Territorial Department of Health, as well as attending to a large private practice. It will be indeed difficult to choose from Alaska's list of resident physicians a successor for this post, so important at this time. He had a common sense and human touch that made him a good administrator as well as a good physician and surgeon.

During a recent session of the Territorial Legislature the House of Representatives was discussing a bill which would require, among other things, that persons intending to marry submit to an examination determining their sanity, and Dr. Council was called to testify. During a lull in the interrogation, he remarked in a stage whisper to the Speaker of the House that perhaps the sanity of anyone applying for a license to wed might be questioned.

He had a wealth of lore on fishing and hunting. He could get fish when they just weren't there to anyone else, and the elusive wild geese were always his easy prey. At every gathering, whether a Rotary Club luncheon, Chamber of Commerce, or Elks meeting, his table or corner was always well-populated.

Once-in-a-while a great man comes along, a man

who is not only great because he is wise and can do great things, but a man who is also human, so human that it is difficult to see the value while he is with us.

"Doc" Council is dead as a man. But "Doc" Council belongs to that part of Alaska that will always live. He was and always will be a part of Alaska.

"Doc" was happy at the helm of his boat, and he loved the feel of the kick of a shotgun. He was also a poet, although many of his friends didn't realize that he wrote poetry. We know that the following few lines were familiar to him and appropriate—from Robert Louis Stevenson's "Requiem and Epitaph":

Under the wide and starry sky Dig the grave and let me lie. Glad did I live ,and gladly die, And I laid me down with a will.

This is the verse you grave for me, "Here he lies, where he longed to be; Here is the sailor, home from the sea, And the hunter home from the hill."

A News Item from the same paper:

Walter Wooten Council, M.D., Dean of Alaska surgeons, Commissioner of Health for the Territory, is dead as the result of a heart attack. The doctor collapsed in his apartment early in the evening of November 13th, upon return from a professional call, and death came 45 minutes later.

Walter Wooten Council was born at Council, N. C., May 25th, 1882, the son of John Pickett Council and John Pickett Counci

cil and Johanna Wooten Council.

He was educated at the University of North Carolina, where he received his Ph.D. degree, and in 1905 he was graduated with honors from the University of Virginia, receiving his Medical Degree. Distinguished in athletics, he was All-American tackle while at the University of Virginia.

He was married three times; in 1907 to Virginia Scurry, in 1920 to Jane Murray, and in 1934 to

Alleine Apland, a Juneau school teacher.

Outside of his professional affiliations, Dr. Council was a Director of the Baranof Hotel Corporation, the Alaska Air Transport and the Hill Mining Co. He served three terms as Mayor of Cordova, Alaska; and was president of the Juneau Chamber of Commerce for a year. An active Rotarian, Dr. Council was also a member of the Juneau Elks Lodge, an Odd Fellow, a Moose and a Knight of Pythias. He was Territorial Chairman of the recent National War Fund Drive.

One of Alaska's most eminent sportsmen, Dr. Council was unexcelled as a fisherman and hunter, in pursuit of which his companionship was sought not only by fellow Alaskans of all walks of life

but by celebrities of literature, stage and screen, as well as business associates.

Surviving are Mrs. Council and 18-month-old daughter, Carol Ann, residing in Juneau; and another daughter, Mary Lee Council, now Secretary to Alaska's Delegate to Congress, Anthony J. Dimond, living in Washington.

Dr. Council performed two operations the morning of the day of his death at St. Ann's Hospital. He enjoyed a hunting trip two days before.

His death closed a successful medical career which began in Alaska when he became surgeon for the Ellamar Mining Company in 1906, and from 1908-27, surgeon for the Copper River Railway and Kennecott Copper Company. From 1916 to 1927 he was assistant surgeon in the Public Health Service and has been Commissioner of Health for Alaska since 1933.

In 1936 he formed the Juneau Medical and Surgical Clinic, with Drs. W. M. Whitehead, C. C. Carter, W. P. Blanton and R. H. Williams. He was secretary-treasurer of the Alaska Board of Medical Examiners, an officer of the State Provincial Health Authorities of North America, a member of the American Medical Association and served on many professional groups including the Surgeon General's Communicable Disease Control Committee, the Committee for the Prevention of Blindness, the American Child Health Asociation, and numerous others.

This scion of two distinguished North Carolina families early was awarded recognition in "Who's Who." He lived and died Alaska's foremost physician and surgeon and public health officer, her most useful, most appreciated, and most distinguished citizen.

A MEANS OF DOWNING THE SENTIMENT FOR SOCIALIZED MEDICINE PERMANENTLY

GIVE THE GENERAL PRACTITIONER THE STANDING THAT IS HIS DUE

There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization.—

ROBERT LOUIS STEVENSON

When patients are referred by general practitioners to specialists, and no patients referred by specialists to general practitioners, it is inevitable that the general public will think of specialists as being better doctors than general practitioners; unless specialists—in their conversations with patients, in their talks before civic clubs and other lay organizations, in their letters to the editor, and in every other way and at every opportunity—emphasize the fact that general practitioners are

qualified to treat, and should treat, 85 per cent of all the illness and injury occurring in their practice.

Stevenson's tribute was paid after a lifetime of intimate association with general practitioners.

For the specialists to accept the adulation of the public and merely refrain from proclaiming their own superiority is not enough. They must take a positive stand, must say convincingly that their proper function is to care for persons sick and injured beyond the ordinary, must refer cases of average and less than average severity which come to them to their family doctors, with the firm statement that family doctors are the proper persons to take care of such cases; and for those who say they have no family doctor, pick out one to refer to, just as the family doctor picks out suitable specialists for his patients whose illnesses or injuries are such as really need to have specialists' services and pay specialists' fees.

The excessive cost of medical and surgical service today is at the bottom of the demand for socialistic medicine; and this excessive cost has its origin largely in unnecessary going to specialists and unnecessary hospitalization.

Few, indeed, are those who do not accept without question the pronouncement of the salesman. "You get what you pay for," meaning that the cost to customer (or patient) is a reliable criterion of the value of the merchandise or service. So this is the line of thought: The specialist charges more, therefore the specialist is better. I want the best. I cannot afford to pay for the best. Pass a law. Pay for medical services by taxation. Little of the taxation will fall on me.

The American Journal of Digestive Diseases (Dec.) discusses editorially the subject of the decline of the general practitioner.

The editor, along with the rest of us, realizes that the general man today, with all his skill, enjoys less prestige than his work justifies, and that in our larger cities the internist has no easy time holding prestige, and this is "merely because he is a general man." Even in smaller American communities, he finds there is a similar insistence on the "specialist," that in many cases, "when a perdirector of traffic,—he may not feel it necessary to son takes sick, the general man becomes chiefly a refer, but the public has the habit."

It is suggested that the no more than 10% of cases actually requiring specialist services cannot be reduced unless our schools can turn out a larger percentage of exceptionally high-grade general practitioners. Certification of those general men who could show by examination that they knew the general field well and could handle at least 90 per cent of all cases encountered without reference is suggested.

We hardly think this recommendation feasible. Who would do the certifying? Most likely the certifying boards would be made up of specialists, and one may well question their ability to do the general practitioner justice. The habit of condescension toward him is too firmly and too long fixed.

"The writer has in mind a number of general men who, throughout many years of practice, when they referred a case voluntarily to a specialist, the latter soon learned that such cases would certainly present problems of unusual difficulty. All such men became highly valuable in their communities and commanded the respect which only scholarship and adeptness can command. But in every single case there was a price which each one paid for his kind of devotion to medicine. Although not one of them cared much for money, their constant devotion to what was for them a 'life of medicine,' gave rise to either marital unhappiness or ill health. In some cases the neglect of the wife, not through intention but by indirection, led to chronic unhappiness. Other physicians died, usually of coronary occlusion, in their fifties." The kind of genius seen in such practitioners, it is realized, is not an academic matter.

Our own experience does not bear out that of the Chicago editor who here speaks up for the neglected foundation stone of medicine. We know many a one of them way past his fifties, still living happily with his first and only wife, whose buoyant step and accurate diagnosis and successful treatment give promise of many more years of domestic happiness and professional usefulness.

Men who can impress a whole community with their great talent over a period of years are neither products of pedagogy nor the result of intensive search among high-school graduates. The formula for producing general practitioners of this type is elusive.

Much might be accomplished by official recognition of the exceptional general practitioner, and by a gradual realization among teachers that something approaching universal skill is possible. On entering medical school, if an undergraduate were to choose general practice as a career, his course ought to be a specialized course in general practice and he ought to leave college as well-fitted for his task as the man who intends to restrict himself to one phase of practice. His post-graduate work should be done not only in hospitals, but through apprenticeship to excellent general men. His outlook would then be as specifically general as the other man's is generally specific. The public soon would learn, from employment of such a doctor, that they were dealing with an expert and one who could safely be trusted to refer when necessary.

The concluding paragraph from the American Journal of Digestive Diseases strikes a note of encouragement. This journal has published the address of a president of the Tri-State Medical Association which advocated the appointment of a general practitioner as dean of every medical school in the Country; it has urged the acceptance of an apprenticeship to a good general practitioner as the equivalent of a hospital internship, and as of the greatest value to the established practitioner as well as the doctor just graduated.

We have no confidence that the public can be got over its habit of demanding the services of specialists, of referring themselves, unless the specialists will adopt and practice daily the measures set forth early in this writing. And these measures are recommended as the only means of salvation for specialists and general practitioners alike.

CLINIC-Taylor (From Page 546)

the age of 15 years. Other cranial nerves not affected. Head otherwise negative. Neck negative. His upper extremities showed very marked atrophy throughout, from hands to shoulder girdles. His tendon reflexes were absent, abdominal reflexes hyperactive. He had no sphincter disturbances. There was marked atrophy of the lower extremities, more so in the legs than in the thighs, but it was not as extreme as in the upper extremities. The patient stated he had noticed fibrillary twitchings in his atrophying muscles. The Romberg sign was negative. Patient showed a flaccid gait with toe-drop. His coördination was good. Blood Wassermann negative.

Discussion: The diagnosis here is easy, viz., progressive spinal muscular atrophy of the Aran-Duchene type. The slow progress, the flactid paralysis, the atrophy of the muscles, the fibrillary twitchings, all point to progressive spinal muscular atrophy. The distribution of the paralysis is of the Aran-Duchene type. The familial incidence is of interest. It occurs in this type, but is more frequent in the Werdnig-Hoffman type, which, however, begins as a rule in infancy. The Charcot-Marie-Tooth type affects the distal portions of the limbs only. There is no satisfactory treatment for the condition, and it progresses slowly but inevitably to a fatal outcome.

Mrs. Harriss felt as if her tongue had been scalded. I told the husband, who with arms behind him kept on pacing the room in huge strides, that his wife's trouble was not cancer, but a burning tongue. He continued his striding as he talked to himself. "Hm. A burning tongue. Like the thorn bush in Exodus watched by Moses—it burns and burns and is not consumed." Roche Review.

NEWS

CHANGES IN VIRGINIA STATE HOSPITALS

Dr. D. L. Harrell, formerly superintendent of the Petersburg Colony, is the new superintendent of Western State -Mospital at-Staunton, succeeding Dr. J. S. DeJarnette, 77, Who has been in the State hospital service for 54 years.

Dr. DeJarnette will continue as physician-in-charge of the DeJarnette Sanitarium, also located at Staunton. Dr. DeJarnette's work was praised by the State Hospital Board when it armounced this change, along with several others, early in September.

Changes at Eastern State Hospital, Williamsburg, where BW: George W. Brown, 72, was replaced by Dr. Joseph E. Bhartett, were put into effect immediately upon the close of the recent investigation made by the State Hospital Board.

It is believed that Governor Darden is to recommend considerable increases in appropriations for administration, end that the new budget will provide some \$8,000,000 for extensive building programs at both Eastern and Western State hospitals.

Under present plans, Eastern would be moved from the old buildings in the City of Williamsburg to new buildings to be erected on Dunbar Farm, just outside of Williamsburg. These plans also call for extensive rebuilding of facilities at the Staunton institution.

Meanwhile, the hospital board has said it has not been able to find a superintendent for the Lynchburg State Colony to replace Dr. G. B. Arnold, who has resigned to enter private practice in Lynchburg. Dr. Arnold will continue to act until January 1st unless a replacement can be found earlier.

THE DEVEREUX AWARD

For an original paper on Research in Child Psychiatry, the Devereux Schools, Devon, Penn., offer an annual award of \$500.00. The competition is to be conducted under regulations established by the Research Committee of the American Psychiatric Association, and the decision is to the made by this committee.

All papers must be submitted on or before March 1st, 1944.

For particulars write the American Psychiatric Association, Room 924, 9 Rockefeller Plaza, New York City.

VIRGINIA COMMUNITY PAYS TRIBUTE TO ITS DOCTOR

-r A grateful community paid tribute to its most valued citizen a few weeks ago at the Midlothian High School, awhen citizens of the area gave a party for Dr. J. B. Fisher in observance of the fiftieth anniversary of his practice. Friends from all of Chesterfield, as well as Goochland, rPowhatan, Amelia and Henrico participated.

Although well past three-score-and-ten, Dr. Fisher is bearing the even heavier burdens which are imposed on

icountry doctors by the second World War.

 chairman of the Chesterfield County Democratic Committee.

The Midlothian community has for almost a century honored its physicians. A monument to Dr. Phillip Spencer Hancock, 1836 to 1893, long stood in the center of Route 60 near Dr. Fisher's modest residence. For reasons of safety to motorists it was moved to the high school grounds, over Dr. Fisher's protests. There it now stands. In its issue for May, 1929, Southern Medicine & Surgery

published a tribute to Dr. Hancock which was written by the sher.

ENGLISH NEUROLOGIST SAYS USE OF ALCOHOL AS A BEVERAGE IS DECLINING

Sir James Purves-Steward, visiting Dr. Beverleys: R. Tucker, of Richmond (Nov. 30th), says that alcoholism is decreasing in Britain through an educational campaign.

Sir James advocates compulsory examination of entire populations of evidence of venereal disease. He says England, like America, has sustained an acute increase in venereal infections during the war, and that if gyery man, woman and child were examined and treated under compulsion near eradication could be realized.

The ninth edition of his book, "The Diagnosis of Nervous Diseases," is to be published shortly in America and England.

HOSPITAL INSTALLS PLASMA EQUIPMENT

A blood bank and plasma equipment has been installed in Hugh Chatham Memorial Hospital with I. H. Kolodny, hospital technician, in charge of the new department. The quantity of plasma to be kept on hand will be 50 bottles.

Plasma transfusion frequently means the difference between life and death, Dr. E. L. Rice, chief surgeon, emphasized. Dr. Rice has recently been appointed as a member of the medical staff of the Southern Railway System, as assistant company surgeon, according to recent announcement by Dr. Milton B. Clayton of Washington; Chief Surgeon for the Southern Railway.

It will be recalled that a North Carolinian, Doctor for Science) John Elliott, Pathologist; Rowan General Hospital, Salisbury, did most toward working out the technique of preparation of plasma and stimulating interest in its use. It was by means of an article by Dr. Elliott fiublished in Southern Medicine & Surgery that the attention of the medical world was first directed to the importance of plasma transfusion. Dr. Elliott is now in Government ervice, engaged in this work.

DILLON (S. C.) HOSPITAL DEDICATED: 10 :117

The new St. Eugene Hospital was dedicated at a meeting held in the High School Auditorium November 16th, with Mayor Rod Carmichael, master of ceremonies. Bishop Emmet M. Walsh of the Charleston Diocese made an inspiring talk on the purposes underlying the building of this hospital by the Catholic organization of St. Louis. He explained that the hospital was named for Cardinal Eugene Pacelli, now Pope Pius XII, who visited the Sisters in St. Louis some years ago.

Dr. B. F. Hardy, president of the Dillon Medical Society, responding, promised the whole-hearted co-operation of the Dillon physicians. A brief response was made by Paul L. Watson of St. Louis, counsel for the Sisters of St. Mary. Rev. Mother Mary Concordia superior general of the Sisters of St. Mary, was presented and made a brief inspirational talk thanking the people of Dillon for the opportunity of establishing a hospital here. Dr. James McLeod, chief surgeon of McCleod Infirmary at Florence, congratulated Dillon on her new hospital, and offered the

assistance of his staff in making the opening of the hospital a success

Governor Olin D. Johnston highly commended the Sis ters of St. Mary for their charitable assistance to Dillon County and wished them godspeed in their work in this community.

MECKLENBURG COUNTY (N. C.) MEDICAL SOCIETY

The December 7th meeting was devoted to election of officers and awards to septuagenarian members.

Dr. Oren Moore was elected president; Dr. R. H. Lafferty, vice-president; Dr. M. T. Gilmour (re-elected), secretary.

A goldheaded cane was presented to Dr. T. N. Reid, the presentation address by Dr. R. L. Gibbon; and to Dr. T. M. McCoy, Dr. J. M. Northington making the address.

MEDICAL COLLEGE OF VIRGINIA

Commencement exercises closing the one hundred and sixth session of the college will be held at the Mosque auditorium on the night of December 18th. Mr. John Temple Graves, III, editor of the Birmingham Age-Herald, will be the speaker. There are 109 candidates for graduation: 74 in medicine; 26 in dentistry; 9 in pharmacy. Due to the accelerated program the school of nursing will not graduate a class until September, 1944, as this school is now accepting two classes each year.

Dr. W. T. Sanger, president; Dr. Jacques P. Gray, dean; and Dr. Roshier W. Miller, professor of materia medica attended a meeting of the Norfolk alumni on November 9th. Dr. Sanger has been appointed vice-chairman of the Baruch Committee on Physical Medicine. This group, under the chairmanship of Dr. Ray Lyman Wilbur, will make an intensive study of the need of physical therapy in medicine and the present status of medical education in this field. The committee will have three months in which to formulate its report to Mr. Bernard M. Baruch.

Dr. Harvey B. Haag, professor of pharmacology, presented a paper on Premature Separation of the Placenta at ination of Quinine at the meeting of the American Therapeutic Association November 15th. This meeting was held jointly with that of the Southern Medical Association.

Dr. H. Hudnall Ware, Jr., professor of obstetrics, presented a paper on Premature Sapartion of the Placenta at the Southern Medical Association meeting in Cincinnati on November 18th.

Dr. I. A. Bigger, professor of surgery, recently spoke on Abdominal Wounds at Camp Eustis, this offering being a part of the coöperation of the college with the War-Time Graduate Medical Committee in sending its faculty members to nearby camps to speak on their specialties.

Dr. Frank Langfitt of Clarksburg, West Virginia, was a recent college visitor.

Armistice Day exercises were held at the Monumental Church at noon on November 11th. Dr. W. Lowndes Peple of Base Hospital 45 Veterans' Association spoke briefly on behalf of Dr. Stuart McGuire, honorary commander of the Association. Mr. Thomas C. Boushall, president of the Morris Plan Bank, and a member of the Base Hospital 45 unit in World War I, made the formal address.

Dr. R. Finley Gayle, Jr., professor of neuropsychiatry, and Dr. H. C. Henry, associate in neuropsychiatry, visited the psychiatric department of the University of Pittsburgh on November 15th while en route to Cincinnati to attend the annual meeting of the Southern Medical Association.

The 107th session of the college will begin on December 30th.

Dr. Bass to Rutherfordton Dr. Wilkinson to High Point

Dr. Beatty L. Bass has succeeded Dr. L. L. Wilkinson on the staff of the Rutherford Hospital. Dr. Wilkinson and family have moved to High Point.

Dr. Bass, is a native of Halifax County, North Carolina He is a graduate of N. C. State College, the University of N. C. and Tulane University, New Orleans. He has been practicing medicine at Lenoir.

Dr. Maynard Putney Smith announces the opening of offices in the Professional Building, Richmond, Virginia, for the practice of otolaryngology.

Dr. J. G. A. Cushing, lately of Pinebluff Sanatorium. Pinebluff, N. C., announces the opening of offices for the practice of psychiatry at 11 East Chase Street, Baltimore.

Dr. L. T. Russell, Jr., has opened offices for the practice of oral surgery and exodontia in the Professional Building, Charlotte, N. C.

Dr. A. A. Rucker, Rutherfordton, N. C., who had retired from practice for a number of years, has resumed practice to help meet the needs of his community for medical care during the emergency.

MARRIED

Dr. Albert Clifton Smith, Jr., Lieutenant, Medical Corps, United States Army, of Spartanburg, South Carolina, and Miss Rachel Ingram Monger, of Lynchburg, were married on November 6th.

Dr. H. E. Adams, of Covington, and Miss Ileta Reese Cummings, of Brownsburg, Virginia, were married on November 24th.

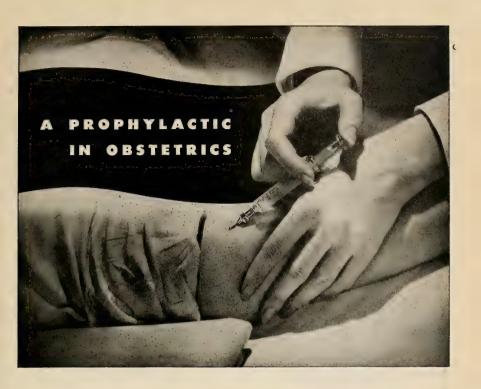
Miss Nettie Schoolfield and Dr. R. B. Davis, both of Greensboro, were married November 27th at the bride's home, 1508 Northfield Street, with Rev. Edward Suits, Methodist minister, officiating.

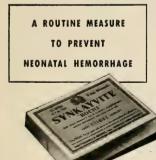
DIED

Dr. Roy Dennis Halloran, 49, died in Walter Reed General Hospital in Washington City on November 10th. Last August he was commissioned colonel in the Medical Corps of the United States Army and assigned to the office of the Surgeon General to direct the work in neuropsychiatry. That assignment placed upon him heavy responsibilities in organizing the facilities and in selecting the proper personnel to carry on the work. Those who knew Dr. Halloran think of his death as a casualty of war—as much so as if he had died on the field of battle.

Dr. Halloran was born at Cambridge, Massachusetts; he was an academic graduate of Dartmouth and a graduate in medicine of the College of Physicians and Surgeons in the class of 1920. For the last ten years he had been superintendent of the splendid State Hospital at Waltham, Massachusetts. He was given leave as superintendent in order that he might accept the appointment to the Surgeon General's staff.

The funeral service was held in the Memorial Chapel of the Army Medical Center in Washington and the interment was in the National Cemetery at Arlington on November 15th.





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SYN AVVITE ROCHE

Dr. Franklin Davis Wilson, 61, Norfolk pediatrician, died November 17th at Norfolk General Hospital. After a breakdown several months ago he returned to restricted practice. Death was attributed largely to overwork incident to the present emergency.

Dr. Coleman B. Ransome, Health Commissioner of Roanoke, Va., died suddenly in his office December 3rd. Dr. Ransome, 56, had been in ill health since September. He was a native of Mathews County and was graduated from the College of William and Mary and the Medical College of Virginia, and had held the office in which he died for 20 years.

Dr. Frederick C. Rinker, 58, died at a Norfolk hospital November 15th. Dr. Rinker located at Norfolk in 1919 after serving six years as associate professor of medicine at the University of Wisconsin.

Born in Upperville, Virginia, he received his A.B. degree from Randolph-Macon College and his medical degree at the University of Virginia in 1911. During his stay at the University of Wisconsin, he was a first lieutenant in the army, stationed at the university, for the period of World War I.

He was a member of the Southside Virginia Medical Society (its president at one time), the Seaboard Medical Society, the Medical Society of Virgina and the American Medical Association. He was a Fellow of the American College of Physicians and a Licentiate of the American Board of Internal Medicine.

Mrs. Frances Walker Porter Hubbard, 75, wife of Dr. C. C. Hubbard, of Farmer, N. C., died at her home November 17th, after a long illness. Mrs. Hubbard, daughter of the late David W. and Fannie Porter of Guilford Coun-

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*Minnesota Medicine, Aug., 1943, page 709. Southern Medicine & Surgery, Sept., 1943, Editorial. ty and Asheboro, was born in Asheboro. She and Dr. Hubbard celebrated their golden wedding anniversary last June. Before her marriage, she taught school in Randolph County, and also worked in the register of deeds office of Randolph. After her marriage, she devoted her life to her husband's profession, studying medicine herself and working with him in his practice.

Mrs. Hubbard's father was a brother of the late Dr. Algernon Porter, of Greensboro, father of "O. Henry."

Dr. William Norman Williams, of Tabor City, North Carolina, died in the Columbus County Hospital at White-ville on October 25th. On October 20th, Dr. Williams was injured in an automobile accident in which his wife was killed and another woman and her child also lost their lives.

Dr. Williams had been engaged in the practice of medicine at Tabor City for twenty years. He was a native of Pinebluff, Arkansas, and a graduate in medicine of the Medical College of Virginia in the class of 1924. As a member of the Medical Corps he rendered service in the first World War.

BOOKS

PAIN, by Thomas Lewis, M.D., F.R.S., Physician in Charge of Department of Clinical Research, University College Hospital, London. Fellow of University College, London. The Macmillan Co., New York. 1942. \$3.00.

The author confesses his inability to define pain, but says the usage of the term will be clear enough for the reader.

Chapter heads are:

Pain-sensitive Tissues; Anatomical Basis of Pain; Sensory Systems: Types of Pain; Two Systems of Pain Nerves in Skin; Erythralgia; Nocifensor Tenderness; Cutaneous Tenderness and Nerve Injuries; Pain and Tenderness in Ischaemic Muscle; Excitants of Pain Nerves; Referred Pain: Referred Manifestations of Somatic and Visceral Origin Compared; Pain of Visceral Disease; Tenderness and Rigidity in Visceral Disease; Source of Pain and Associated Reflexes in Visceral Disease; Principles in the Clinical Use of Pain.

Comment is made on the general lack of precision in describing pain as preventing the realization of anything like its full value in differential diagnosis; and that proper evaluation of the severity, quality, localization, duration, circumstances and duplication of pain is of immense value in determining its diagnostic value.

MEDICAL MALPRACTICE, by LOUIS J. REGAN, M.D., LL.B., Member State Bar of California. The C. V. Mosby Company, St. Louis. 1943. \$5.00.

The author introduces his subject from the viewpoint that doctor and patient will benefit from a comprehension of the ways in which unnecesary friction may be eliminated from the doctor-patient experience. He understands that there are illegitimate and legitimate cases, and that the great ma-

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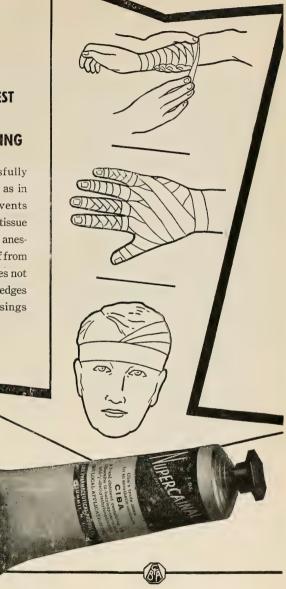
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jority of doctors desire that patients having legitimate claims—the small minority—be compensated and the unfit practitioner be removed. He points out that in certain communities where malpractice suits have become a vicious and menacing problem doctors hesitate to take the risk, particularly in charity cases which involve risk without compensation.

There are chapters on:

Malpractice of Negligence; Physician and Patient; Special Rights to be Respected; Liability for Acts of Another; Hospitals; Expert Witnesses; Expert Testimony; When Physician is Liable; Evidence and Proof; Miscellaneous; The Dentist and Malpractice; The Physician's Office Nurse and Malpractice; Forms; Malpractice Vulnerability, Self-Test; Malpractice Prophylaxis; Conclusion; Table of Cases Cited; Other Citations and References.

Among the cases cited are 32 from North Carolina, four from South Carolina, and 12 from Virginia.

A New York court has declared fee-splitting to be contrary to public policy. Hospitals caring for the insane are peculiarly liable to two special charges—false imprisonment and escape of a patient. There should be no publication of a case record from which the identity of a patient is determinable without the authorization of the patient. A patient has been awarded a verdict because the doctor in charge allowed a non-professional man in the delivery room.

What constitutes consent to operation? Can a surgeon legally perform more than one operation on a patient who has agreed to one only? Who can legally authorize an operation or a postmortem on a minor? May a doctor be held liable for failure to make a biopsy?; or an x-ray examination?; or for treatment not according to established custom?; or for erroneous diagnosis of venereal disease?; or for failure to administer prophylactic serum?, or insulin? These are only a few of the important questions to which answers are given.

Knowledge afforded by this small book should prove far less expensive, far more satisfactory in every way, than liability premiums.

THE COMPLEAT PEDIATRICIAN — PRACTICAL, DIAGNOSTIC. THERAPEUTIC AND PREVENTIVE PEDIATRICS, by W. C. Davison, Professor of Pediatrics, Duke University School of Medicine; formerly Acting Pediatrician in Charge, The Johns Hopkins Hospital. Fourth Edition. Duke University Press, Durham. N. C., Post-Paid \$3.75 by check with order, or for \$4.00 on credit; money back if desired.

Contents

Diagnosis: The 164 pediatric symptoms and signs with causative diseases.

Diseases: Symptomatology, differential diagnosis,

incidence and prognosis of the 329 diseases of children, including tropical.

Treatment, Fluid and Blood Administration: What to give and how to do it.

Feeding, Diets and Nutrition: Infant and child feeding, diabetic, ketogenic, allergic, vitamin, constipation and obesity diets, complete food composition tables, and cooking recipes.

Drugs and Prescriptions: Dosage of every useful remedy, including chemotherapy.

Laboratory Tests: 202 of the most useful methods. Preventive Measures and Child Care: How to correct many of the conditions which annually kill 240,000 American children.

Growth, Development and Guidance of Children: Facts which every physician, nurse and mother should know.

Instructions for Taking Histories and Making Physical Examinations.

Few books have a good index, and a poor index is one of the most serious defects. This is the best book on pediatrics to be had, and its index makes the *compleat* information of its text readily and gratifyingly usable. You will not want your money back.

BACKACHE AND SCIATIC NEURITIS—Back Injuries, Deformities, Diseases, Disabilities, with notes on The Pelvis, Neck and Brachial Neuritis, by Philip Lewin, M.D., F.A.C.S., Associate Professor of Bone and Joint Surgery, Northwestern University Medical School; Attending Orthopaedic Surgeon, Cook County Hospital, and Michael Reese Hospital. Octavo, 745 pages, illustrated with 235 figures. Published November, 1943. Cloth, \$10.00. Lea & Febiger, Washington Square, Philadelphia 6, Pa.

This new work offers the general practitioner the facts that he needs in the diagnosis and treatment of backache, sciatica and related conditions. It is realized that correct diagnosis of these conditions is particularly difficult, that röntgenograms often mislead and particular pains are taken to inform how one may not be misled.

Much of temerity is evidenced by willingness to write a book on backache. Reading the book discloses that this temerity did not amount to rashness, for it contains so comprehensive a presentation of diagnosis and treatment as to go far toward removing backache from its place near the top of the list of the reproaches to medicine.

THE HOSPITAL IN MODERN SOCIETY, edited by ARTHUR C. BACHMEVER, M.D., and GERHARD HARTMAN, Ph.D. The Commonwealth Fund, 41 E. 57th Street, New York, 22, N. Y. 1943. \$5.00.

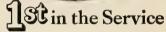
This unusual book is written for the hospital administrator, the head of any hospital service, and the student of hospital administration. Hospital origins, a history of hospitals, possibilities of future development are subjects of universal interest.





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New reprint available on cigarette research - Archives of Otolaryogology, March, 1943, pp. 404-410. Camel Cigarettes, Medical Relations Division, One Pershing Square, New York 17, N. Y.

Who would not wish to read the article on The Hospital, the Family Doctor and the Patient?; that on Should the General Hospital Treat Mental and Contagious Cases? (although some would rather that *doctors* treat the patients, whether in or out the hospital); or that by our own Dr. W. S. Rankin on The Small General Hospital?

The Trustee has a chapter all his own; likewise, Hospital Organization and Management, Medical Staff Organization and Relationships, Nursing Education and Service, Operating Room, each of the usual Services, and the Out-patient Department, Medical Social Service Work, Pharmacy, Records.

Financial Control, Legal Aspects, Hospital Construction, Maintenance, Purchasing, Housekeeping, Public Relations—all these are dealt with.

Next to last comes a discussion of Group Hospital and Health Insurance. In the last chapter, subject Public Health, Dr. W. S. Rankin writes on The General Hospital and Public Health.

SURGICAL ERRORS AND SAFEGUARDS, by MAX THORER, M.D., LLD., D.C.M., F.I.C.S., (C) F.B.C.S., F.I.C.A., K.L.H. (France); K.I.C.: C.O. St. Alex.; Med. Hon. Venezuela; Prof. Surgery, Cook County Graduate School of Medicine; Attending Surgeon, Cook County Hospital; Surgeon-in-Chief, American Hospital; with a foreword by Sig. Hugh Devine, M.S., Hon. F.R.C.S. (Eng.), F.R.A.C.S., F.A.C.S. (Hon.), F.I.C.S. (Hon.),

Past President Australasian College of Surgeons, Hon. Fellow, Association Surgeons Great Britain and Ireland; and a chapter on Legal Responsibility in Surgical Practice, by HUBERT WINSTON SMITH, A.B., M.B.A., LL.B., M.D., Associate in Medical-Legal Research, Harvard Law School and Harvard Medical School, Boston. Fourth edition, completely revised; 794 illustrations. many colored. J. B. Lippincott Co., Philadelphia; Montreal; London. 1943. 815.00.

The Foreword well says that the book shows intention to help, much as a surgeon-father would help a surgeon-son, and as the Guilds of the Middle Ages passed on their knowledge from generation to generation. The edition under review comes out ten years after its nearest predecessor, and in that period chapters on Errors and Safeguards in Plastic Operations and in Electro-Surgical Operations have become necessary because of the great increase in the number and complexity of operative techniques in these fields. This edition aims to present a compendium of the experiences of surgeons throughout the world.

Contents

Errors and Safeguards in Connection with Surgical Operations in General: Failures in Surgery from General Causes Within the Patient Himself—The "Bad Risk" Patient—Preoperative and Postoperative Care; Surgical Failures Due to Defective Instruments and Foreign Bodies Left Within the

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Body During Surgical Procedures: Errors and Safeguards in Blood Transfusions; Errors and Safeguards in Plastic Surgery; Errors and Safeguards in Electrosurgery; Dangers and Safeguards in Operations on the Head; Dangers and Safeguards in Surgical Operations in the Region of the Neck; Dangers and Safeguards in Operations on the Thorax and on the Breast; Dangers and Safeguards in Surgical Operations in the Abdomen in General: Dangers and Safeguards in Operations on the Stomach; Dangers and Safeguards in Intestinal Operations: Dangers and Safeguards in Operations on the Liver, Biliary System, Pancreas and Spleen: Dangers and Safeguards in Hernia Operations: Dangers and Safeguards in Operations in the Urinary Tract and on the Male Genitalia: Dangers and Safeguards in Gynecologic Operations: Dan gers and Safeguards in Surgical Operations Upon the Extremities and Other Orthopedic Conditions: Errors and Safeguards in Surgery of the Spine and Spinal Cord: Legal Responsibility for Surgical Practice (Based on Legal Doctrine in the United States and Great Britain): Index.

It would be difficult, if not, indeed, impossible, to conceive of a more valuable book for the surgeon in his early years of independent practice; and for those grown old in surgery there are many warnings which may well prove of the utmost value to surgeon and to patient.

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WHITE BLOOD CELL DIFFERENTIAL TABLES, by THEODORE R. WAUCH, B.A., M.D., C.M., Associate Professor of Pathology, McGill University Faculty of Medicine, Montreal, Pathologist-in-Chief, Royal Montreal Homeopathic Hospital. 130 Pages; 5x73½: Flexible Cloth: Single Copies \$1.60; 10 or More Copies, \$1.50 Per Copy.

The author has arranged a series of 109 tables which permit computing rapidly and accurately, from differential percentages, the number of each type of white blood cell per c.m. of blood. Introductory pages explain the use of the tables and give the details of the technical procedure. Their use provides the complete analysis of the morphological elements of the blood and gives more exact knowledge of the condition of the blood as well as information on the anatomical and functional state of the whole blood-forming system.

THE THERAPY OF THE NEUROSES AND PSYCH-OSES, by SAMUEL HENRY KRAINES, M.D., Associate in Psychiatry, University of Illinois, College of Medicine: Assistant State Alienist, State of Illinois; Diplomate of American Board of Psychiatry and Neurology; Captain, United States Army Medical Corps. Second edition, thoroughly revised, published 1943. Octavo, 567 pages. Cloth, \$5.50 net.

The present edition has included new chapters

on the psychoses, shock therapies, psychiatric interview techniques and neuropsychiatry incident to the war. The primary purpose is to provide practical understanding of psychiatric states and concrete suggestions on treatment. Methods of interviewing the psychiatric patient, analysis and treatment, indications and contraindications for the use of shock therapy are thoroughly dealt with.

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ELEMENTS OF MEDICAL MYCOLOGY, by JACOB HYAMS SWARTZ M.D., Assistant Professor of Dermatology, Harvard Medical School and the Postgraduate School; Dermatologist Massachusetts General Hospital. Foreword by Fred D. Wedding, M.D., Professor of Dermatological Research, University of Pennsylvania. 190 pages, 80 illustrations, large folding chart, bibliography, index. \$4.50. Grane & Stratton, Inc., 381 Fourth Avenue, New York, 16, N. Y.

This book gives answers to the problems presented by diseases caused by fungous agents. Especial attention is paid to the treatment of the common ringworm infections that constantly confront every practitioner. The author's experience as pathologist, dermatologist and teacher is abundantly testified to. There are two chapters on immunologic tests and the status to date of the use of the sulfonamides in fungus infections, one on nonpathogens among the fungi, a glossary and a series of formulas for culture media and prescriptions.

Just the book to meet the needs of the student and the general practitioner in this large fraction of practice.

SYNOPSIS OF TROPICAL MEDICINE, by SIR PHILIP MANSON-BAHR, C.M.G., D.S.O., M.D., F.R.C.P., Senior Physician to the Hospital for Tropical Diseases, Royal Albert Dock and Tilbury Hospitals; Director, Division of Clinical Tropical Medicine, London School of Hygiene and Tropical Medicine. With five plates. The Williams & Wilkins Co., Mt. Royal and Guilford Aves., Baltimore. 1943. \$2.50.

A book written by a famous authority on tropical medicine and containing all usable knowledge of cause, prevention, diagnosis and cure of the various tropical diseases, and nothing more.

Involvement of the optic nerve usually indicates some disease which originated in the general system or the central nervous system. Papilledema is a passive edema due to raised intracranial pressure without disturbance of function. Optic neuritis is swelling of the disk with inflammation and loss of vision. The two conditions have different ctiology, pathology, symptoms and sequelae, but in the early stages differentiation between the two may be difficult.



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